

# Service Manual



ORDER NO.  
**CRT2145**

MECHANISM ASSY

## CASSETTE MECHANISM

### NOTE:

- This service manual describes the operation of the cassette mechanism incorporated in the models listed below.
- When performing repairs, use this manual together with the specific manual for the model under repair.

Model	Service Manual	Mechanism Assy
KEH-1700/X1M/UC KEH-1750/X1M/ES	CRT2134	CZX3049
KEH-1700/X1M/EW KEH-1730/X1M/EW	CRT2133	CZX3050
KEH-1010QR/X1M/EE KEH-1050QR/X1M/ES KEH-1050QRS/X1M/ES	CRT2122	CZX2994
KEH-1030/X1M/ES KEH-1030SW/X1M/ES	CRT2122	

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## CASSETTE MECHANISM

- (8) The Selector Gear ④④ rotates by 180 degrees, and locks with the Gear Lock Arm ④⑦.
- (9) By a half rotation (180 degrees) of the Selector Gear ④④, the Conversion Lever ②④ and the FR Changing Arm Assy ④ move.
- (10) The Pinch Arms (F) Assy (PS) and (R) Assy (PS) (①④ and ①③) and the Slide Switch(SW3) ①①① are switched by the FR Changing Arm Assy ④. At the same time, the Head(HD1) ⑨⑧ is moved upward and downward by the linked Adjuster Link (X) ④⑥. The TU Gear Arm Assy ④⑨ is switched by the FR Arm (A) Assy ①⑩ and FF Arm ④② to change the direction (FWD and REV).

### FWD operation

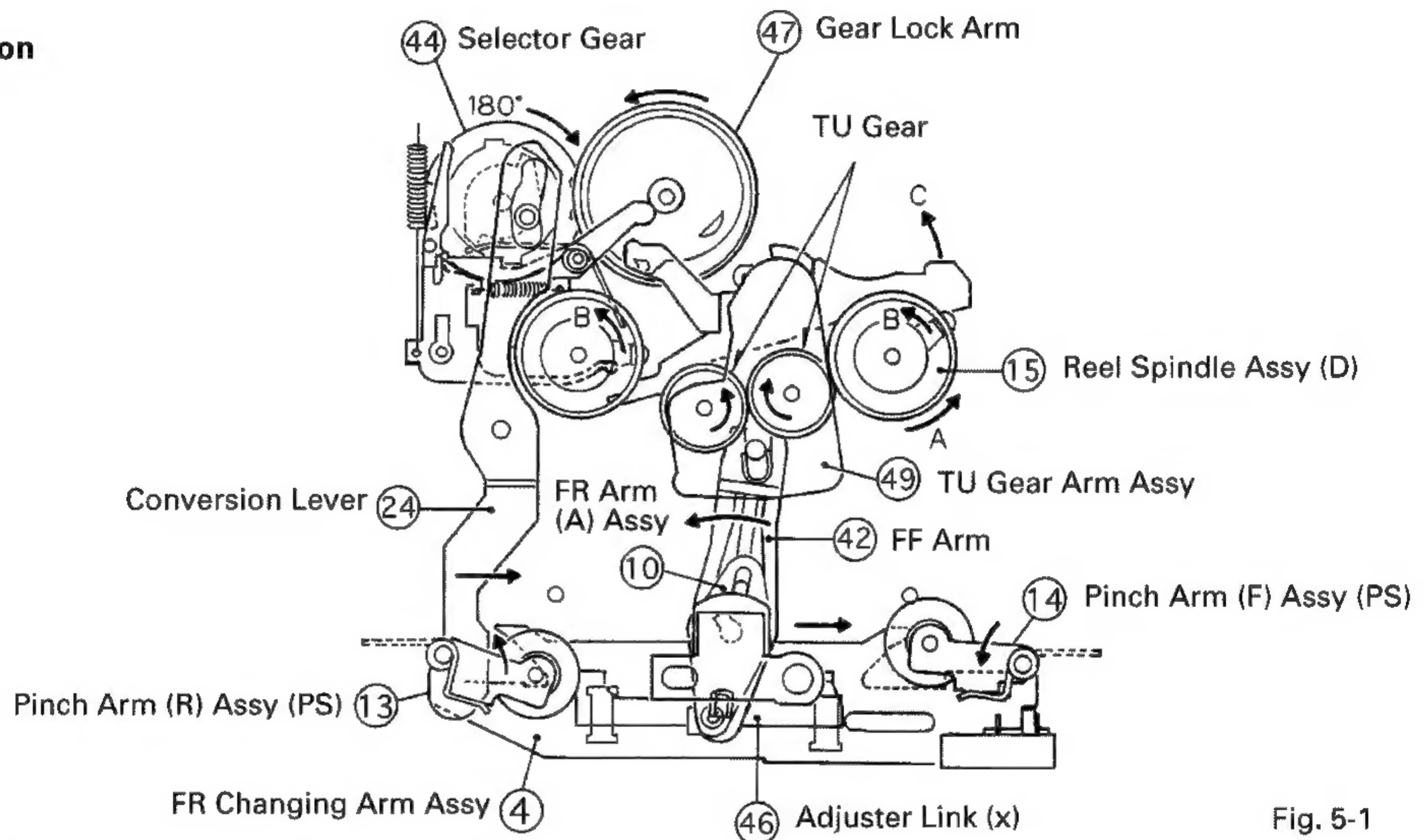


Fig. 5-1

### REV operation

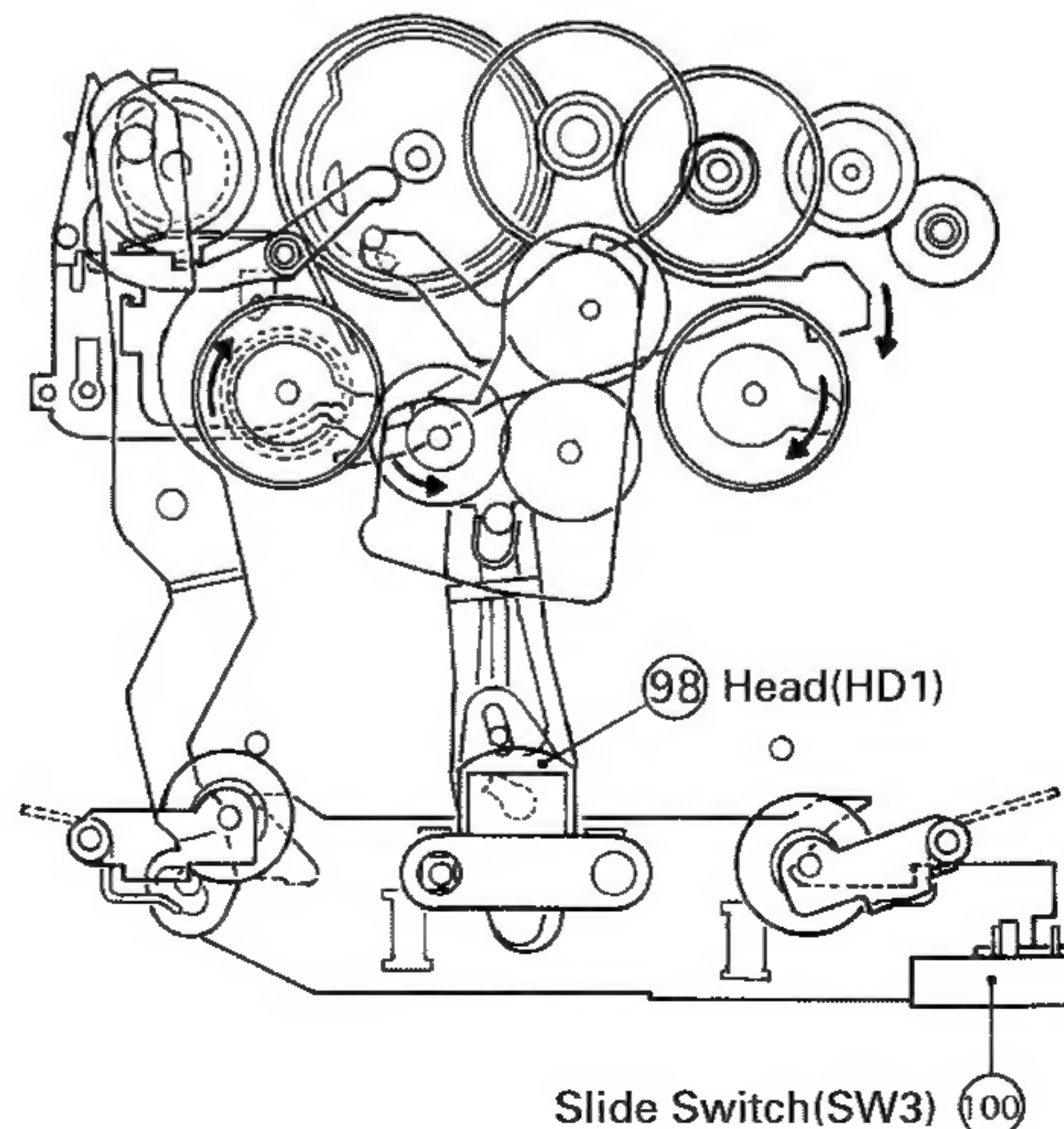


Fig. 5-2



## 4.2 MANUAL PROGRAM OPERATION

- (1) Pressing the FF and REW Lever (AT) (30 and 31) simultaneously moves the Program Arm (A) in the direction shown by the arrow, by the pressure of the Program Arm Spring (71). (Fig.6)
- (2) The Program Arm (A) is then moved further by the guiding hole of the lever.
- (3) The movement of the Program Arm (A) is conveyed to the Change Lever (B) (28), Selector Link (B) (86), Ratchet (41) and then Gear Lock Arm (47).
- (4) The Gear Lock Arm (47) is unlocked. The Dash Spring (77) causes the Selector Gear (44) to rush and engage with the Detector Gear (48). The Selector Gear (44) rotates.
- (5) The projecting portion of the cam of the Selector Gear (44) taps the Ratchet (41). The Gear Lock Arm (47) is released from the Ratchet (41), returns to the given position, and locks the Selector Gear (44).
- (6) Due to the Lock of the Gear Lock Arm (47), the Selector Gear (44) rotates by 180 degrees and stops.
- (7) By a half rotation (180 degrees) of the Selector Gear (44), the Conversion Lever (24) and the FR Changing Arm Assy (4) moves.
- (8) The Pinch Arm (F) Assy (PS) and (R) Assy (PS) (14 and 13) and the Slide Switch (SW3) (100) are switched by the FR Changing Arm Assy (4). At the same time, the Head (HD1) (98) is moved upward and downward by the linked Adjuster Link (X) (46). The TU Gear Arm Assy (49) is switched by the FR Arm (A) Assy (10) and FF Arm (42) to change the direction of rotation (FWD and REV) of the Reel Spindle Assy (D) (15).

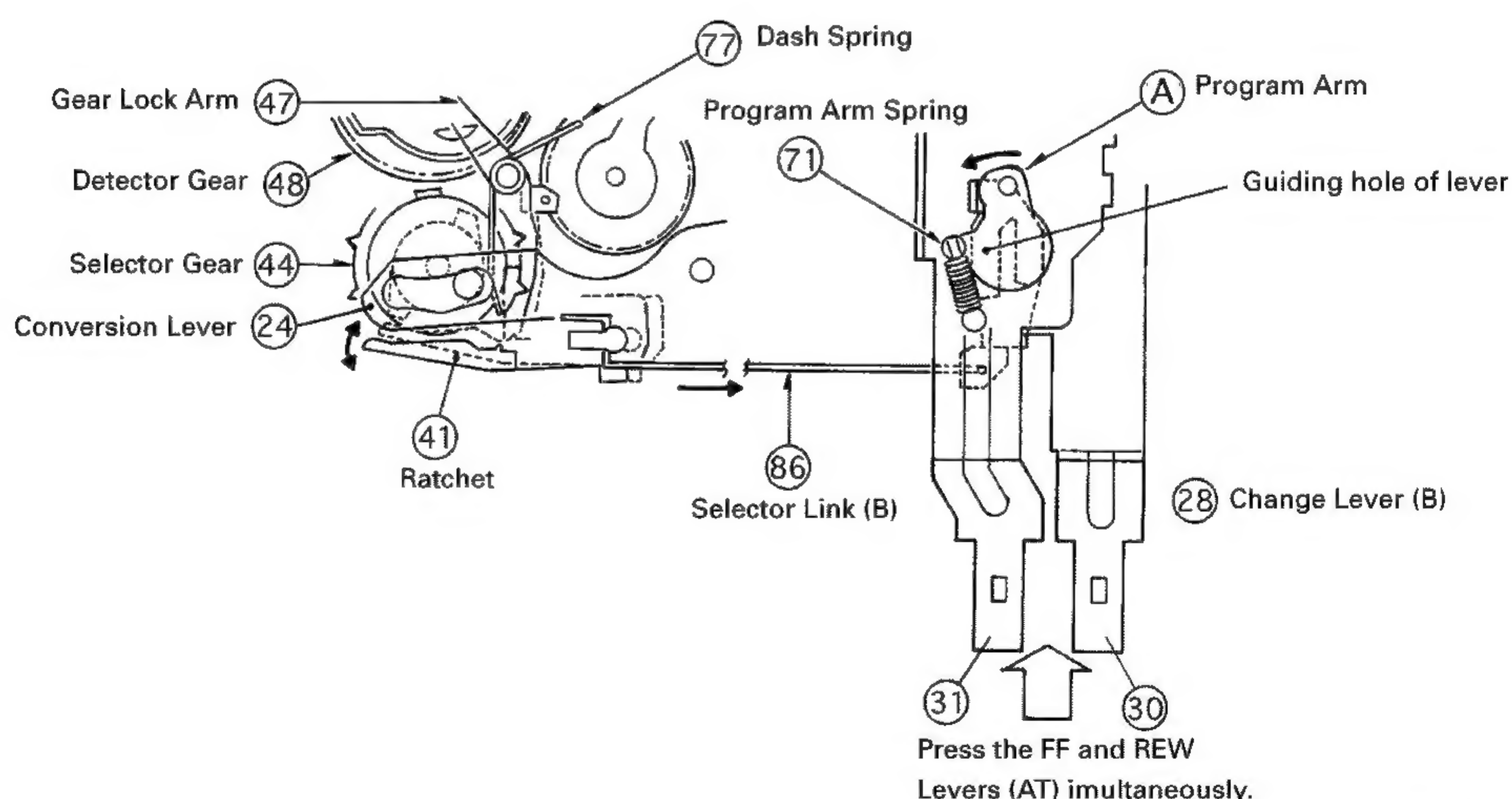


Fig. 6



# CASSETTE MECHANISM

## 4.3 AUTO REPLAY OPERATION

- (1) When the rotation of the Reel Spindle Assy (D) ⑮ stops, the detection mechanism operates. (For the operation of the detection mechanism, refer to 4.1 OPERATION OF THE DETECTION MECHANISM.)
- (2) After detection, the system operates in reverse. The FR Changing Arm Assy ④ moves and the linked Adjuster Link (X) ④⑥ taps the Lock Arm (A) ②⑦ to unlock the FF and REW Levers (AT) ③⑩ and ③⑪).
- (3) The FF and REW Levers (AT) ③⑩ and ③⑪ return to the given position by the pressure of the FF/REW Lever Spring ⑥④. Then the Head Plate Assy (S) ② is pushed out by the pressure of the Head Plate Spring ⑥⑨.

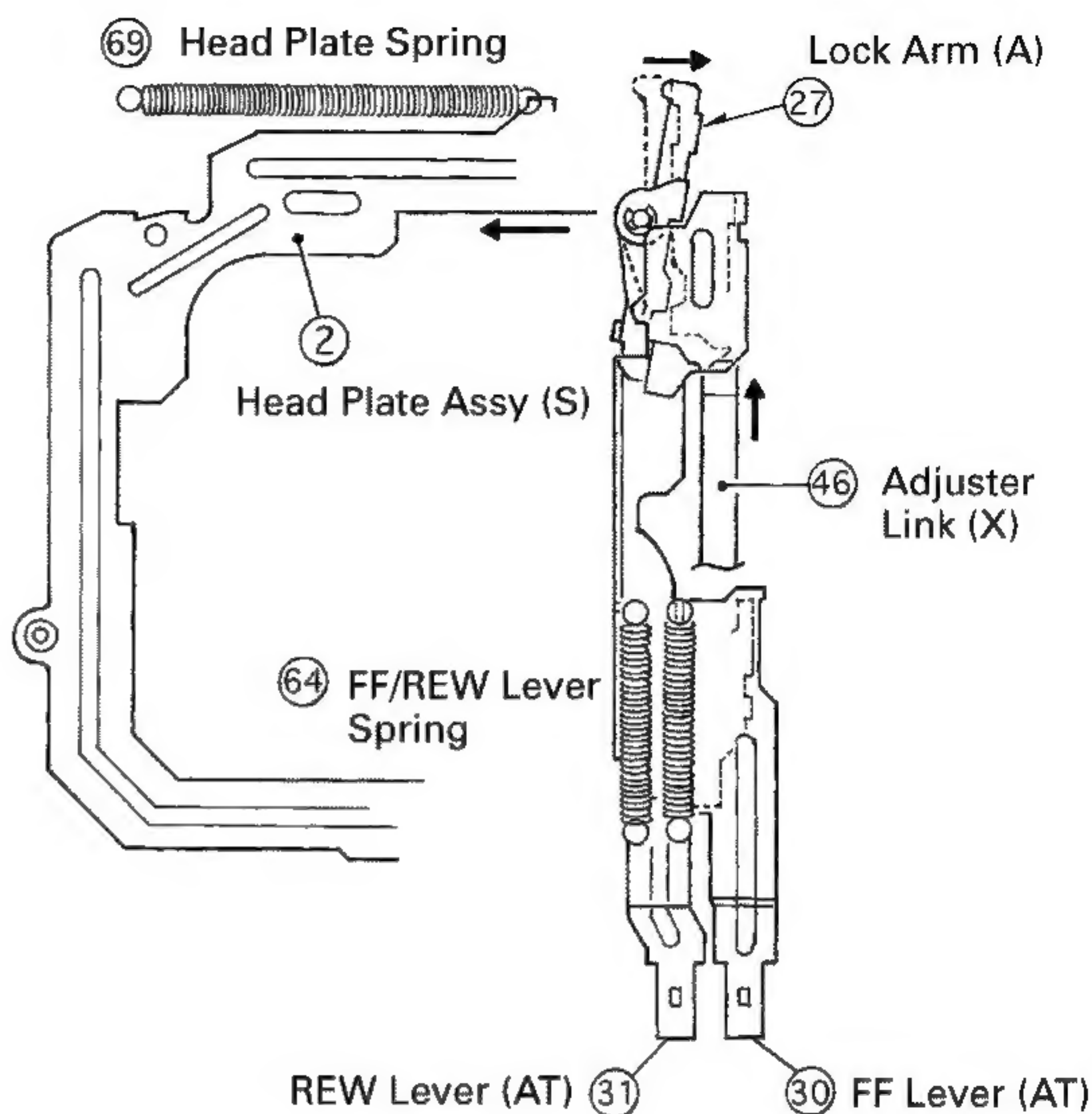


Fig. 7

## 4.4 CASSETTE INSERTION AND LOADING OPERATION

- (1) Inserting a cassette rotates the Center Plate Spring (B) ⑦⑧ in the reverse direction to activate pressure in the withdrawal direction.
- (2) The Tape Hooker ⑤② withdraws the cassette by the pressure of the Spring.
- (3) The Tape Hooker ⑤② taps the Eject Cam Lock Assy ⑥ to unlock the Eject Cam ②⑩. Then the Eject Cam ②⑩ moves in the direction shown by an arrow in the Fig.8.
- (4) The Eject Cam ②⑩ lowers the Cassette Hanger (X) ②②, and the Head Plate Assy (S) ② moves forward.
- (5) The tooth of the Cassette Hanger (X) ②② shifts the Power Switch(SW1) ⑨⑨ to ON.

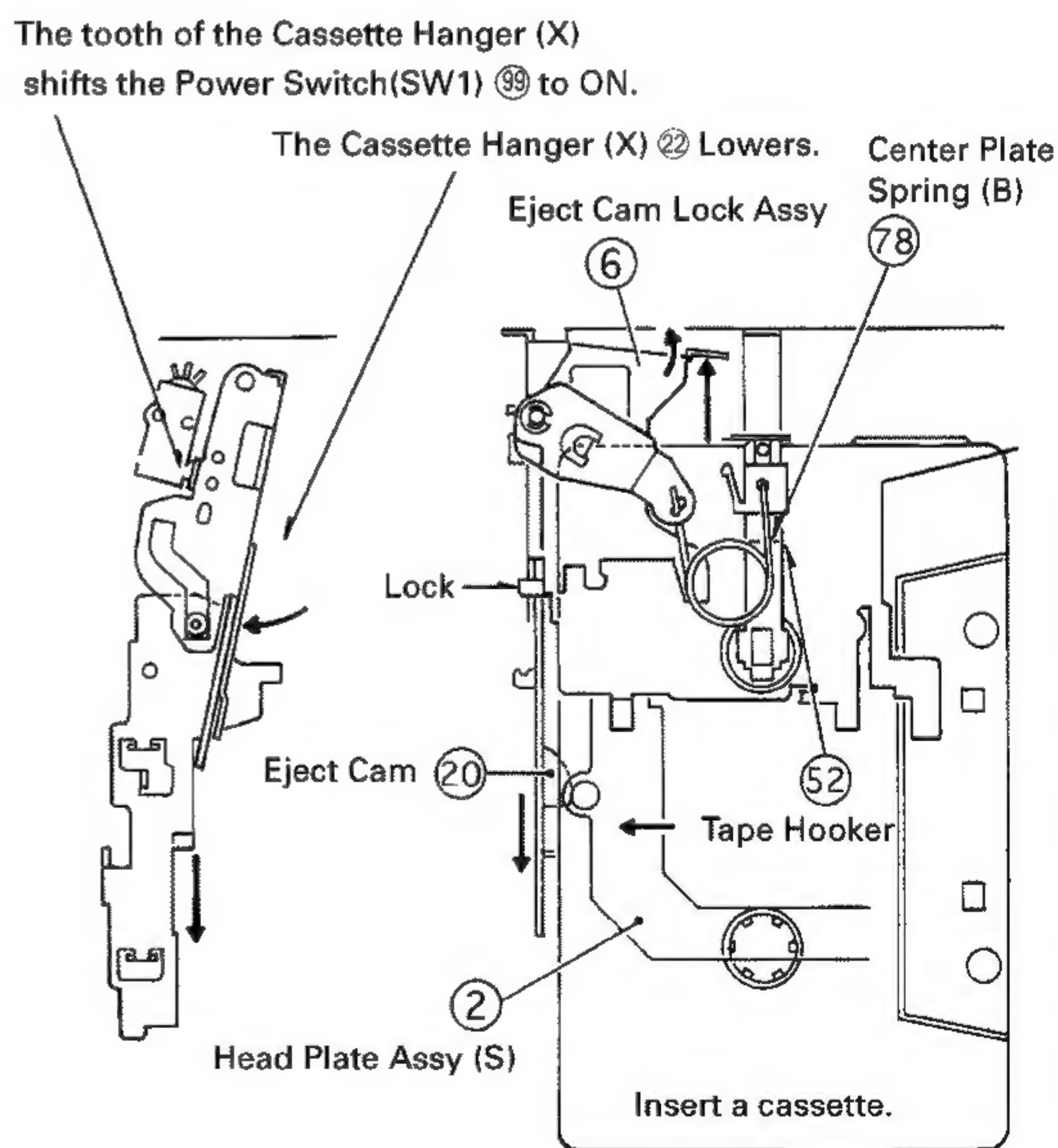


Fig. 8

## 4.5 MUTE MECHANISM

- (1) Pressing the FF Lever (AT) ③① or REW Lever (AT) ③② (FF/REW operation) retracts the Head Plate Assy (S) ②.
- (2) When the Head Plate Assy (S) ② retracts, the Mute Arm (N) ⑤① presses the Mute Switch (SW2) ①② to shift it to ON.

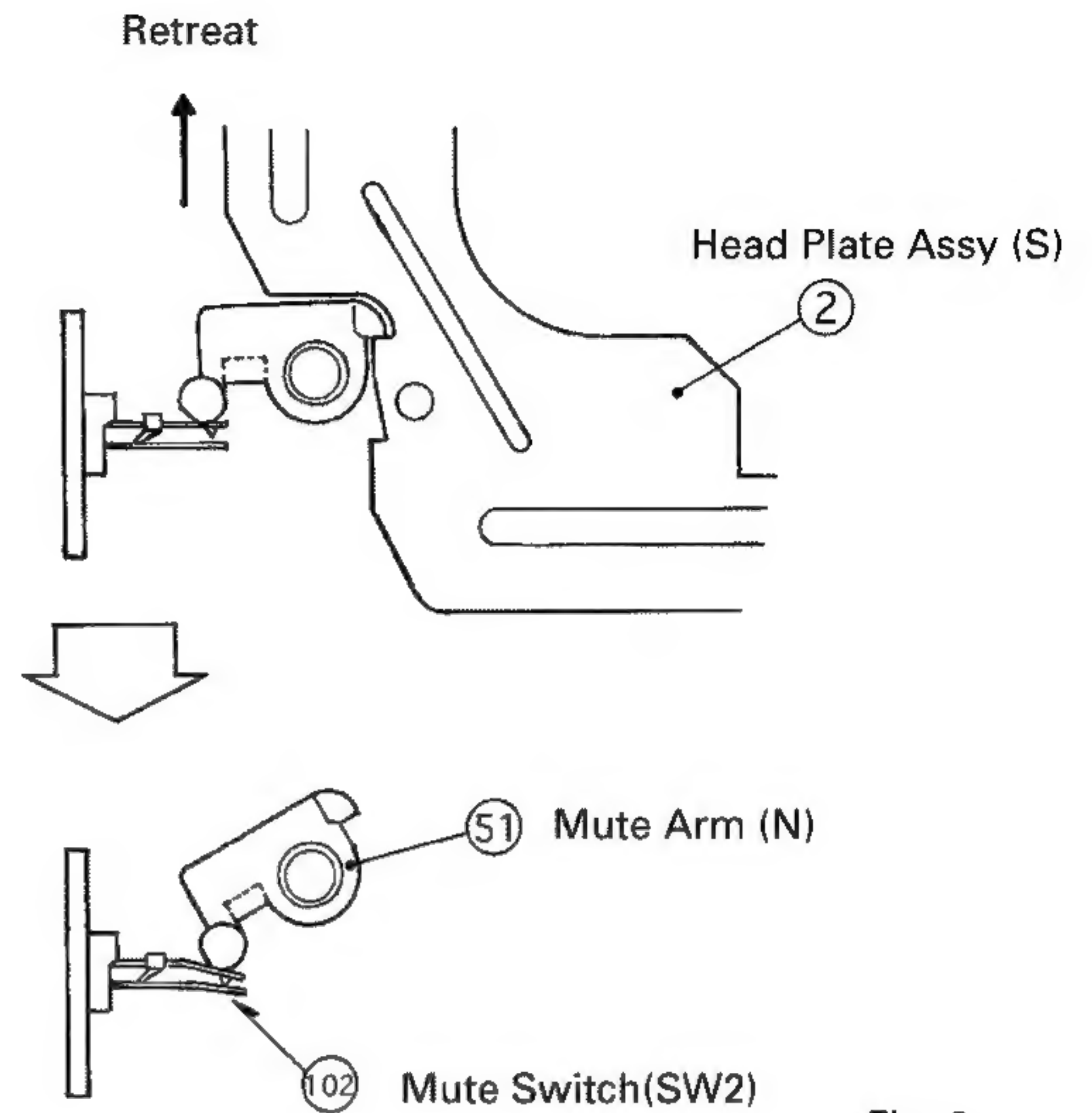


Fig. 9

## 4.6 FF OPERATION (IN THE FWD DIRECTION)

- (1) When the FF Lever (AT) ③① is pressed, it locks with the Lock Arm (A) ②⑦.
- (2) The tilted portion of the FF Lever (AT) ③① retracts the Head Plate Assy (S) ②. When the Head Plate Assy (S) ② moves backward, the Pinch Arm (F) Assy (PS) ①④ moves away from the Flywheel Assy (BF) ①②.
- (3) Then, the Reel Spindle Assy (D) ①⑤ rewinds the tape (with the clutch mechanism inactivated).

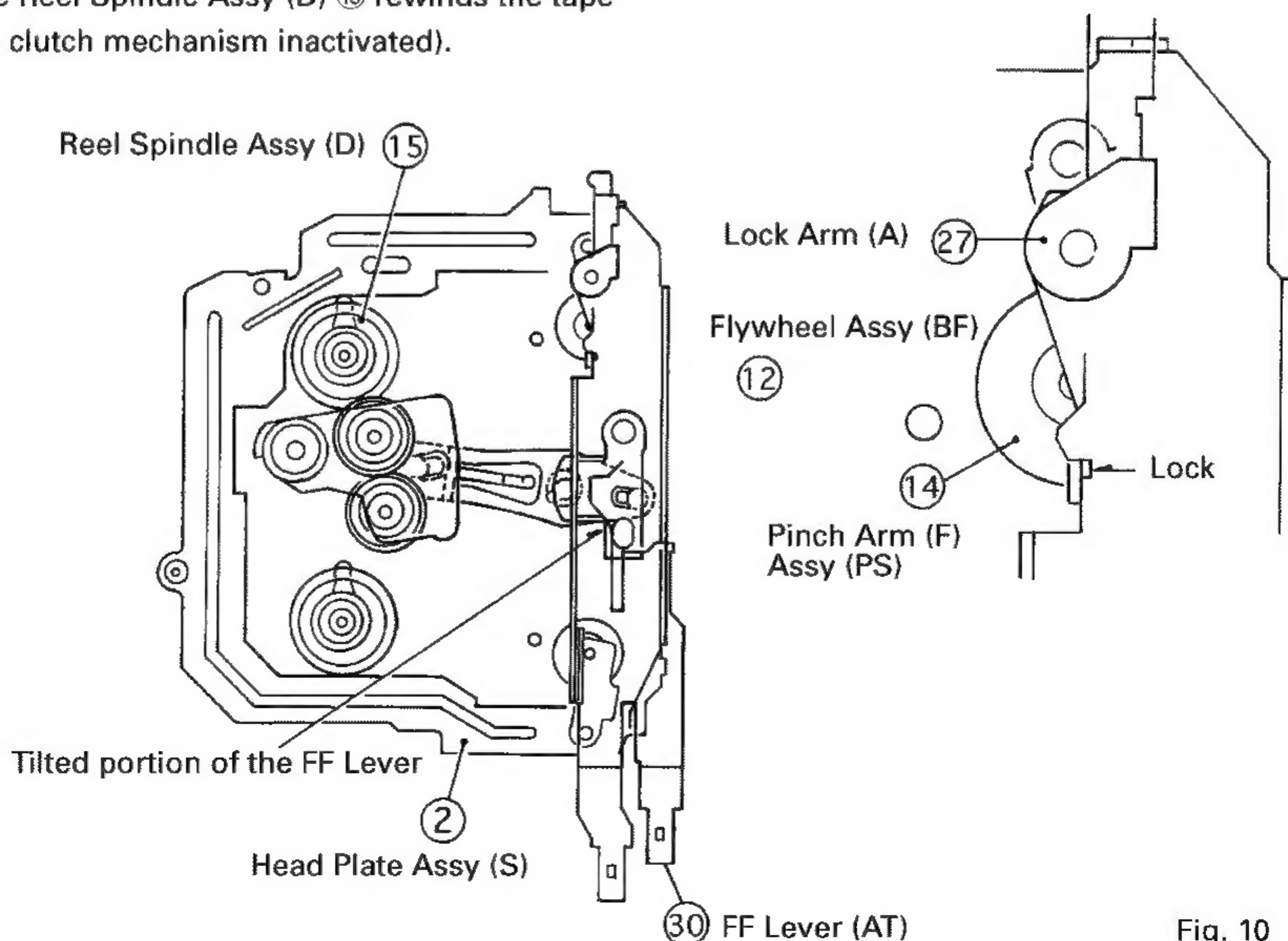


Fig. 10



## CASSETTE MECHANISM

### 4.7 REW OPERATION (IN THE FWD DIRECTION)

- (1) When the REW Lever (AT) ③① is pressed, it locks with the Lock Arm (A) ②⑦.
- (2) The tilted portion of the REW Lever (AT) ③① retracts the Head Plate Assy (S) ②. When the Head Plate Assy (S) ② moves backward, the Pinch Arm (F) Assy (PS) ①④ moves away from the Flywheel Assy (BF) ①②.
- (3) The tooth of the REW Lever (AT) ③① presses the Change Lever (B) ②⑧. The Change Lever (B) ②⑧ links to the FR Arm (B) ②⑨, FF Arm ④②, and then TU Gear Arm Assy ④⑨.
- (4) The TU Gear Arm Assy ④⑨ moves toward the opposite side of the Reel Spindle Assy (D) ①⑤ for the playback and engages with the other Reel Spindle Assy (D) ①⑤ to rewind the tape.

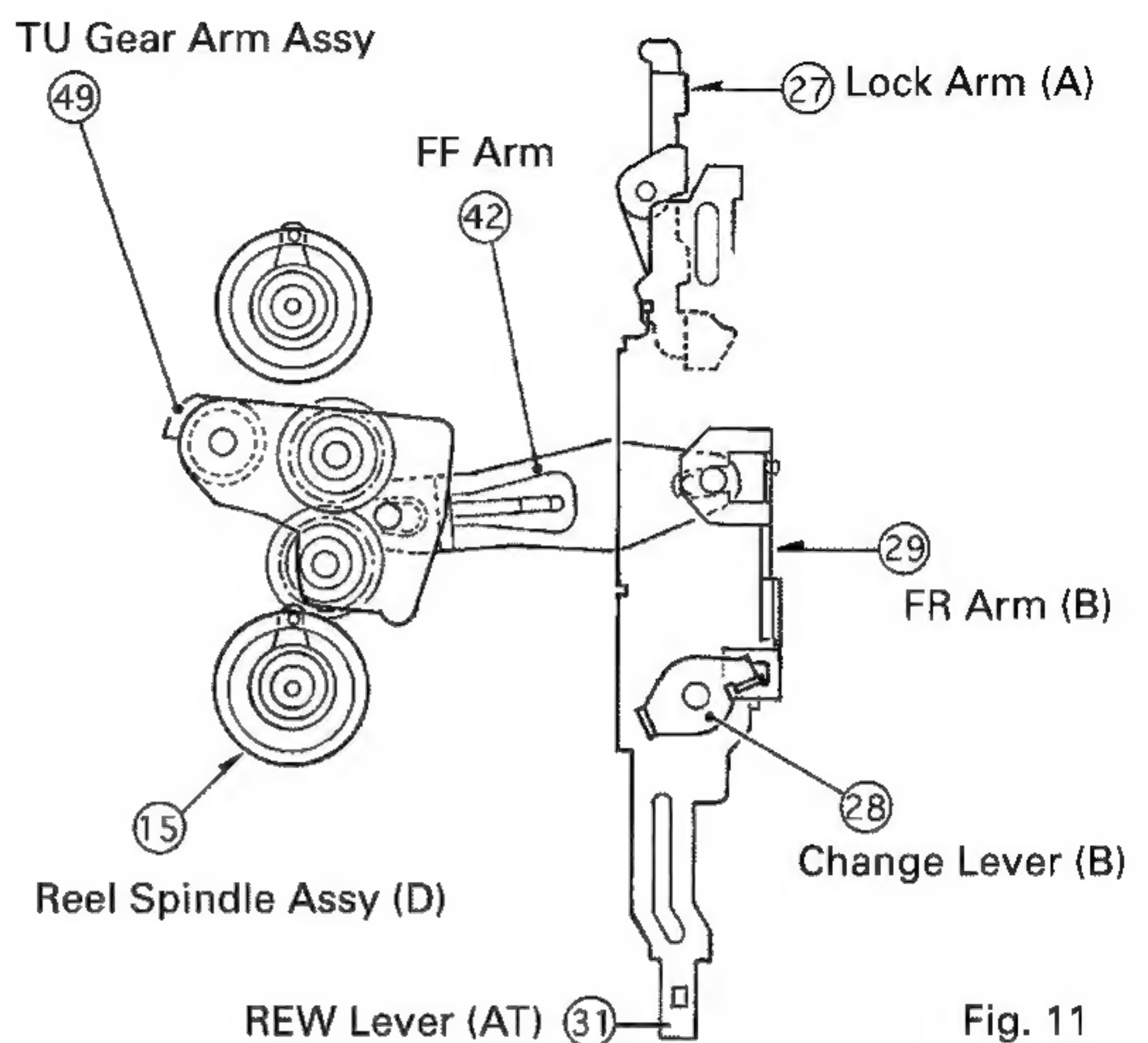


Fig. 11

### 4.8 AMS OPERATION

- (1) The FF and REW Levers (AT) ③⑩ and ③① are locked by the Lock Arm (A) ②⑦.
- (2) The Release Arm ③② is pulled by the Plunger(SO1) ①④④.
- (3) The Release Arm ③② strikes the Lock Arm (A) ②⑦ to unlock it.
- (4) The FF and REW Levers (AT) ③⑩ and ③① are returned by the pressure of the FF/REW Lever Spring ⑥④, the Head Plate Assy (S) ② is pushed out, and the system plays back.

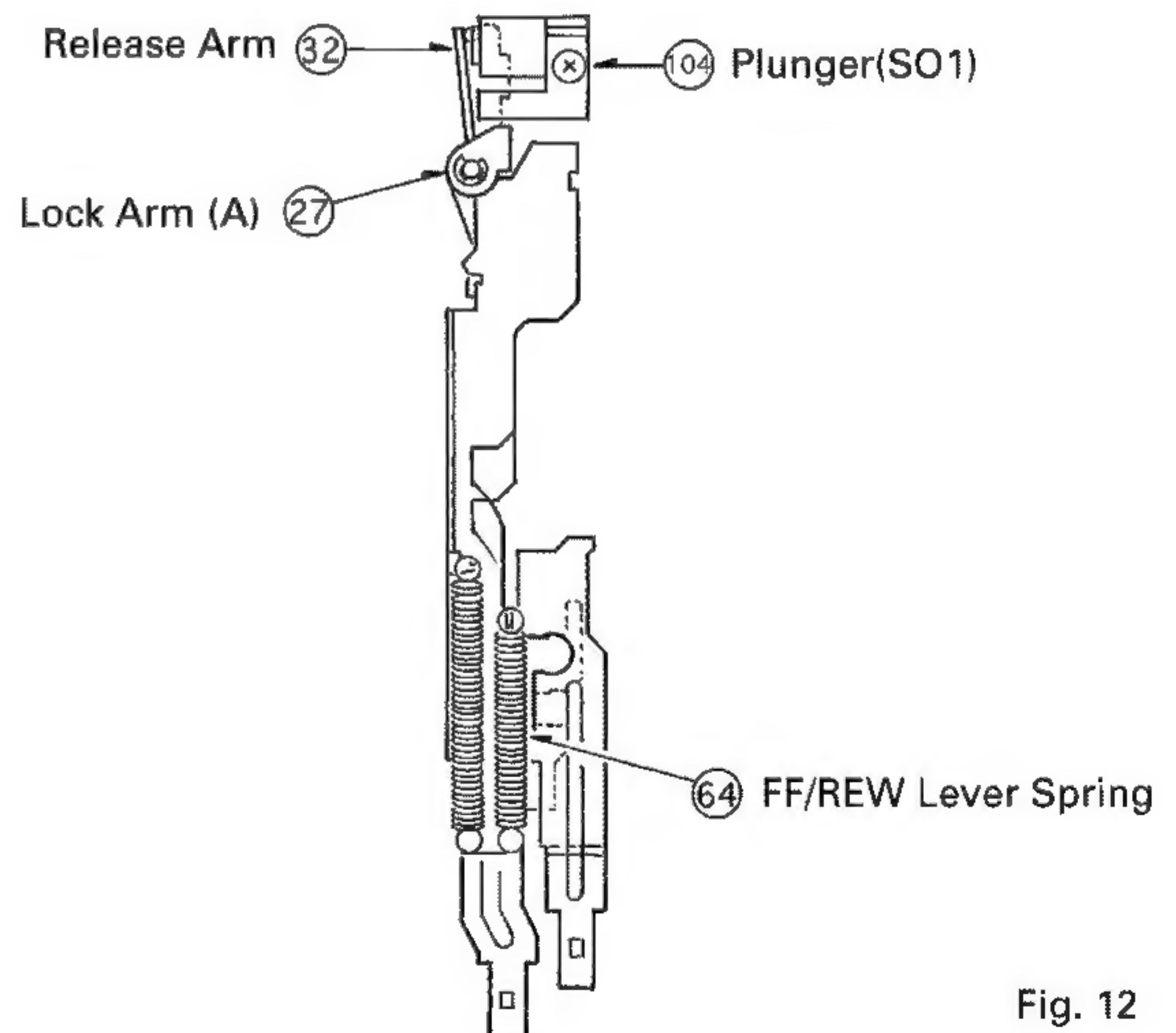


Fig. 12

## 4.9 EJ OPERATION (CASSETTE EJECTION)

- (1) Press the Eject Lever ②①. The Eject Lever ②① pushes the Eject Cam ②②. The cam (tilted portion) of the Eject Cam ②② retracts the Head Plate Assy (S) ②.
- (2) Then, the Head Plate Assy (S) ② pushes the Pinch Arm (F) Assy (PS) and (R) Assy (PS) (①④ and ①③) to retract them.
- (3) The Cassette Hanger (X) ②② is lifted by the projected portion of the Eject Cam ②②. The lifted Cassette Hanger (X) ②② shifts the Power Switch(SW1) ②⑨ to OFF. At the same time, the Return Link ②⑨ pushes the Center Plate ②⑥ to rotate the Center Plate Spring (B) ②⑧ in the reverse direction.
- (4) The pressure of the Center Plate Spring (B) ②⑧ causes the Tape Hooker ②⑤ to move toward the ejection direction. The Tape Hooker ②⑤ moves the Eject Cam Lock Assy ②⑥ to lock the Eject Cam ②②.
- (5) The cassette is ejected by the Tape Hooker ②⑤.

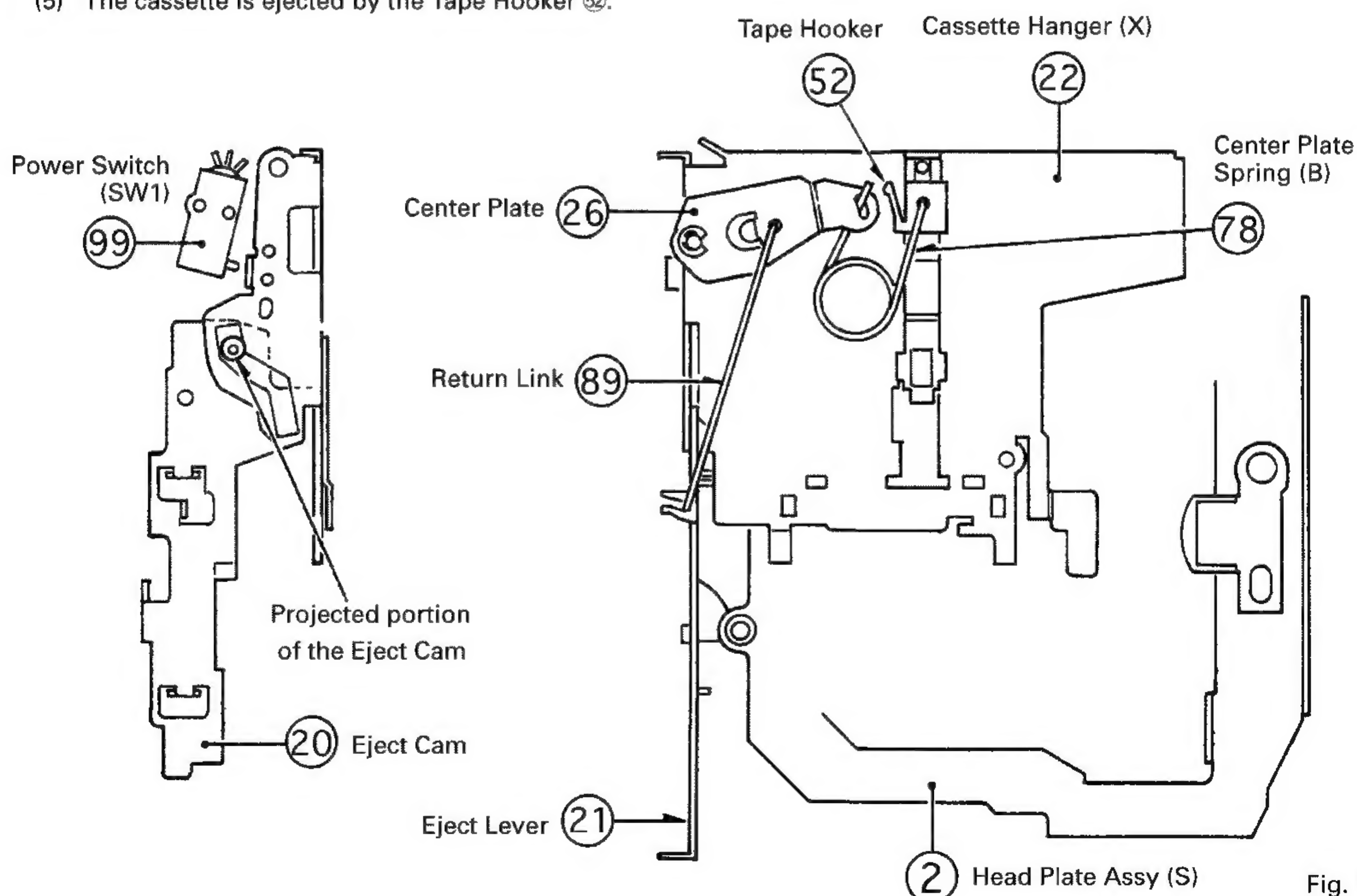
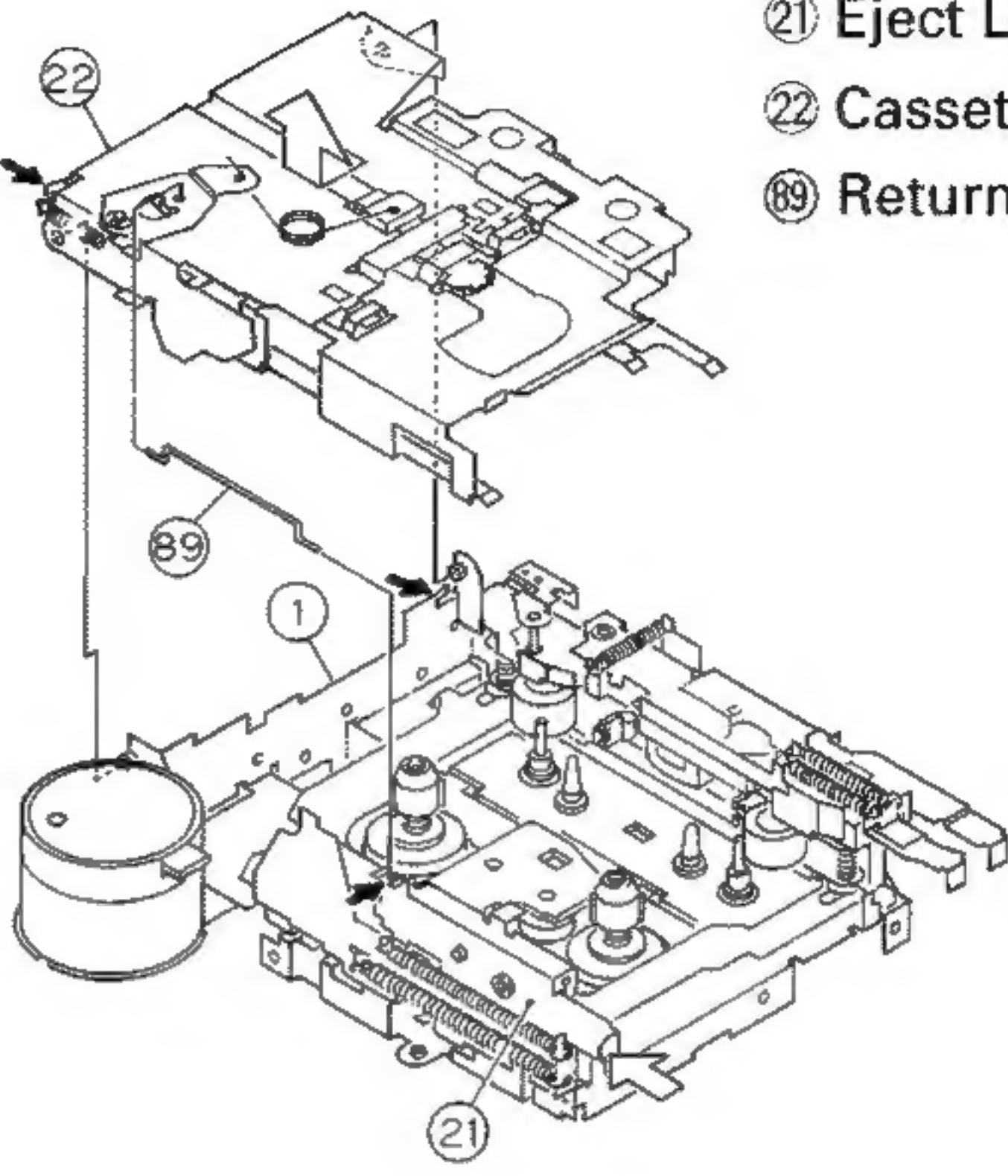
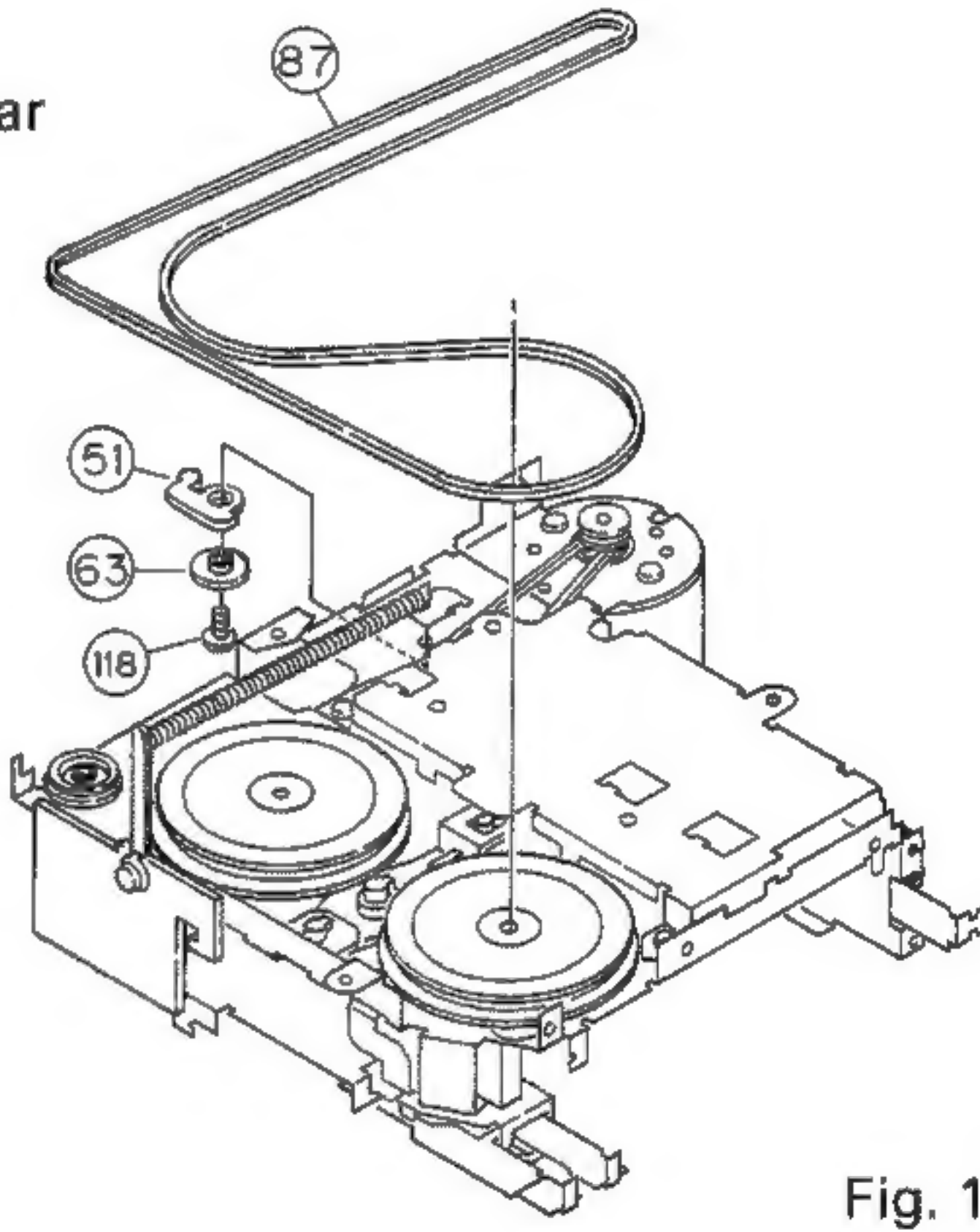
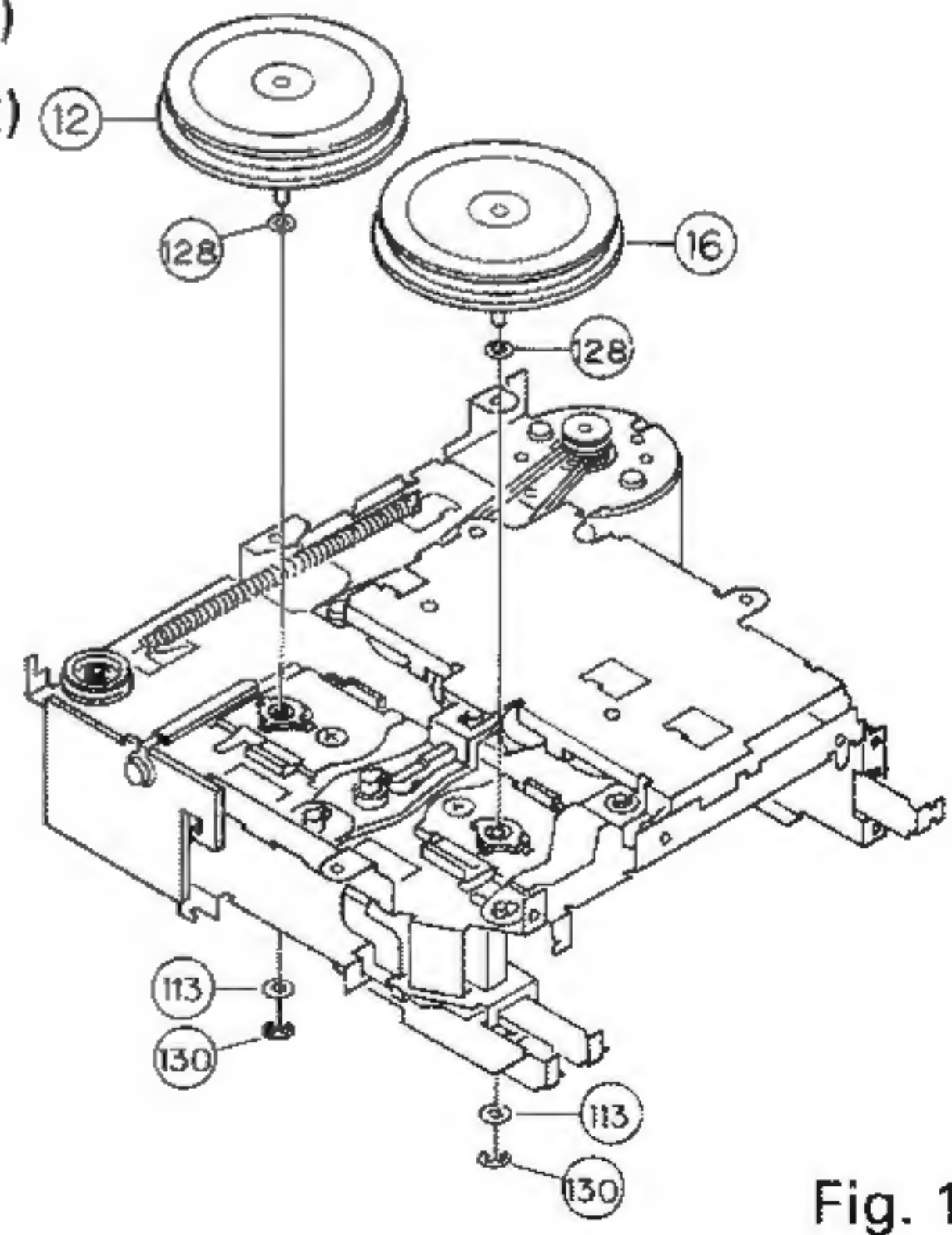


Fig. 13

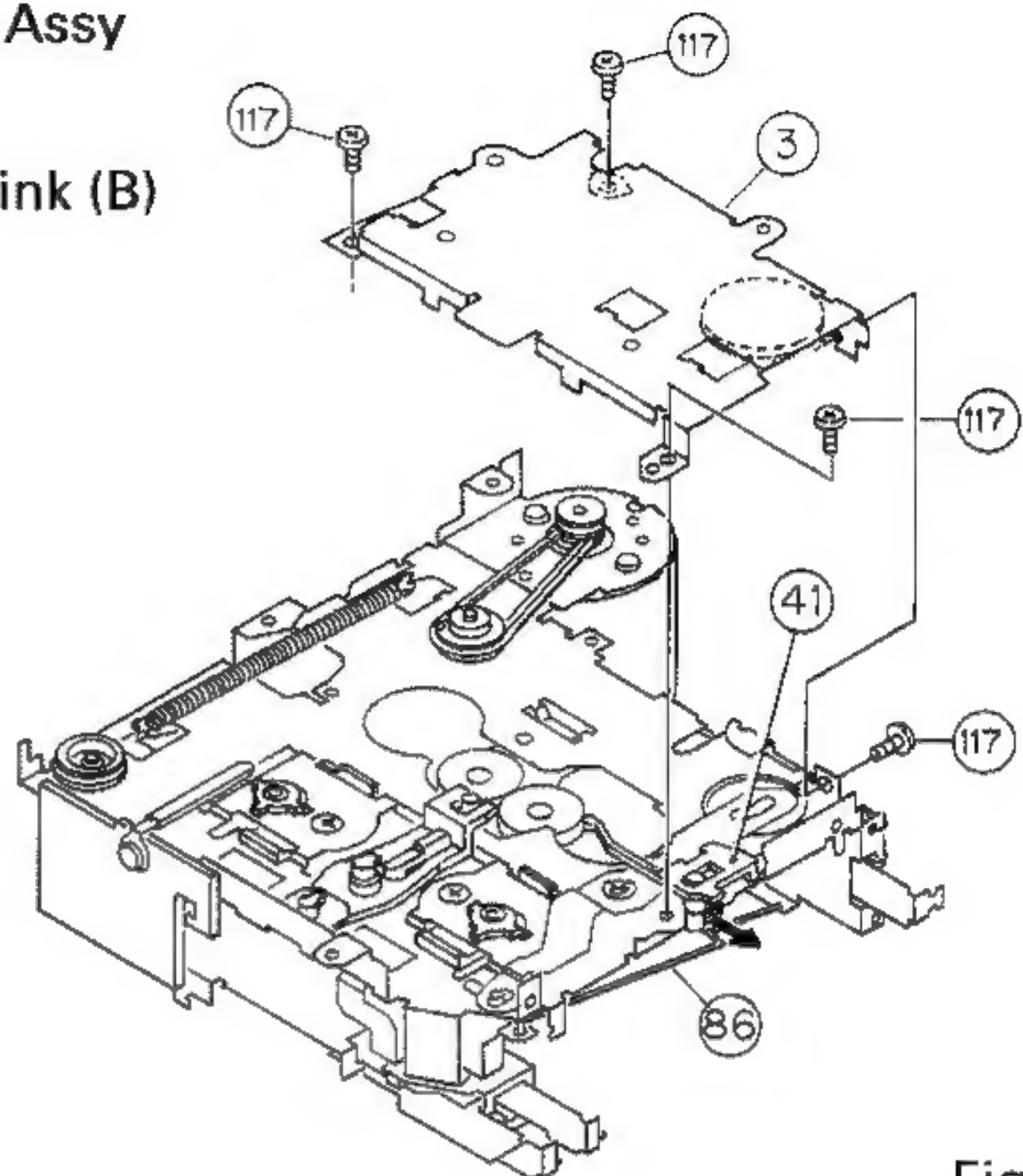
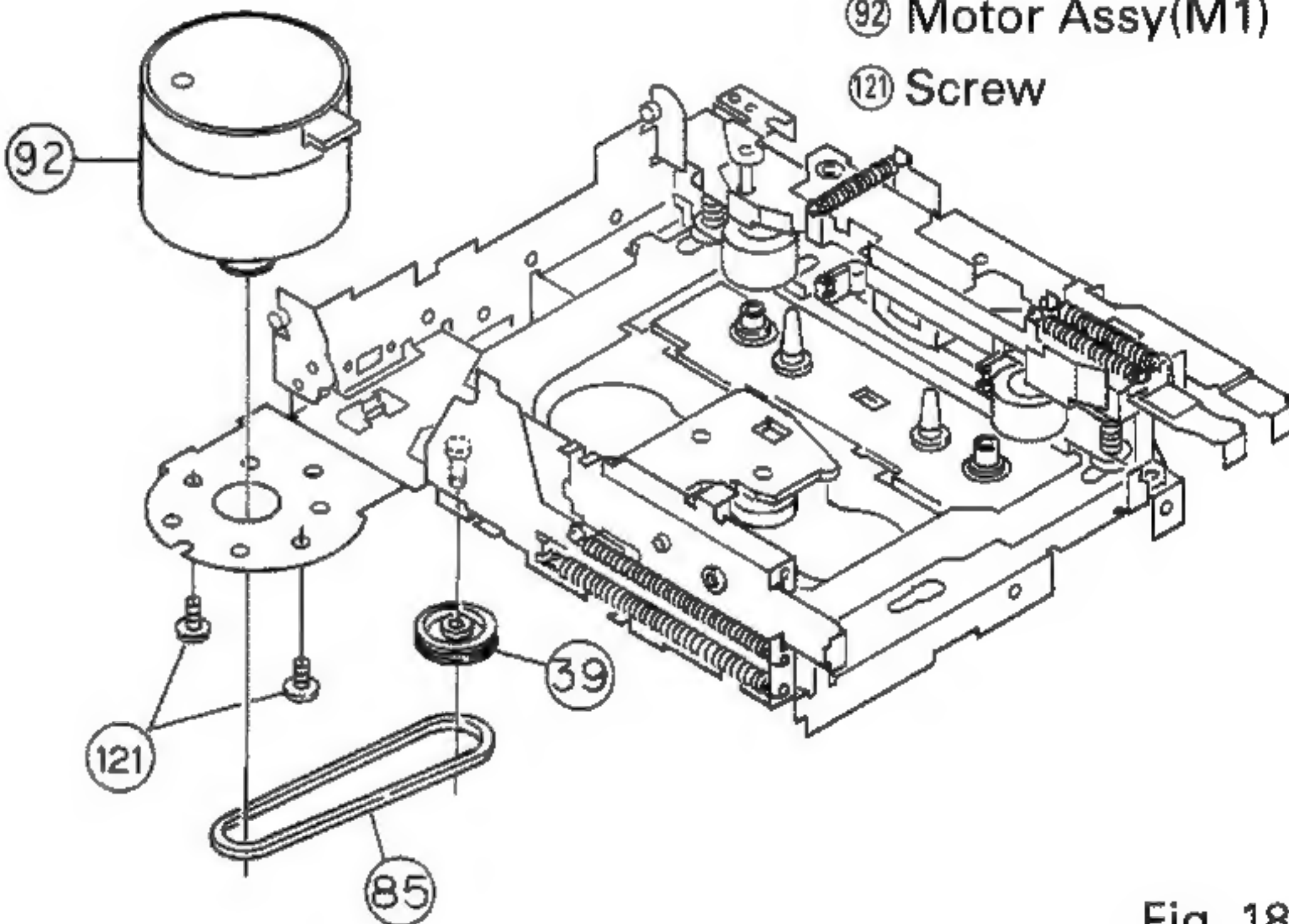
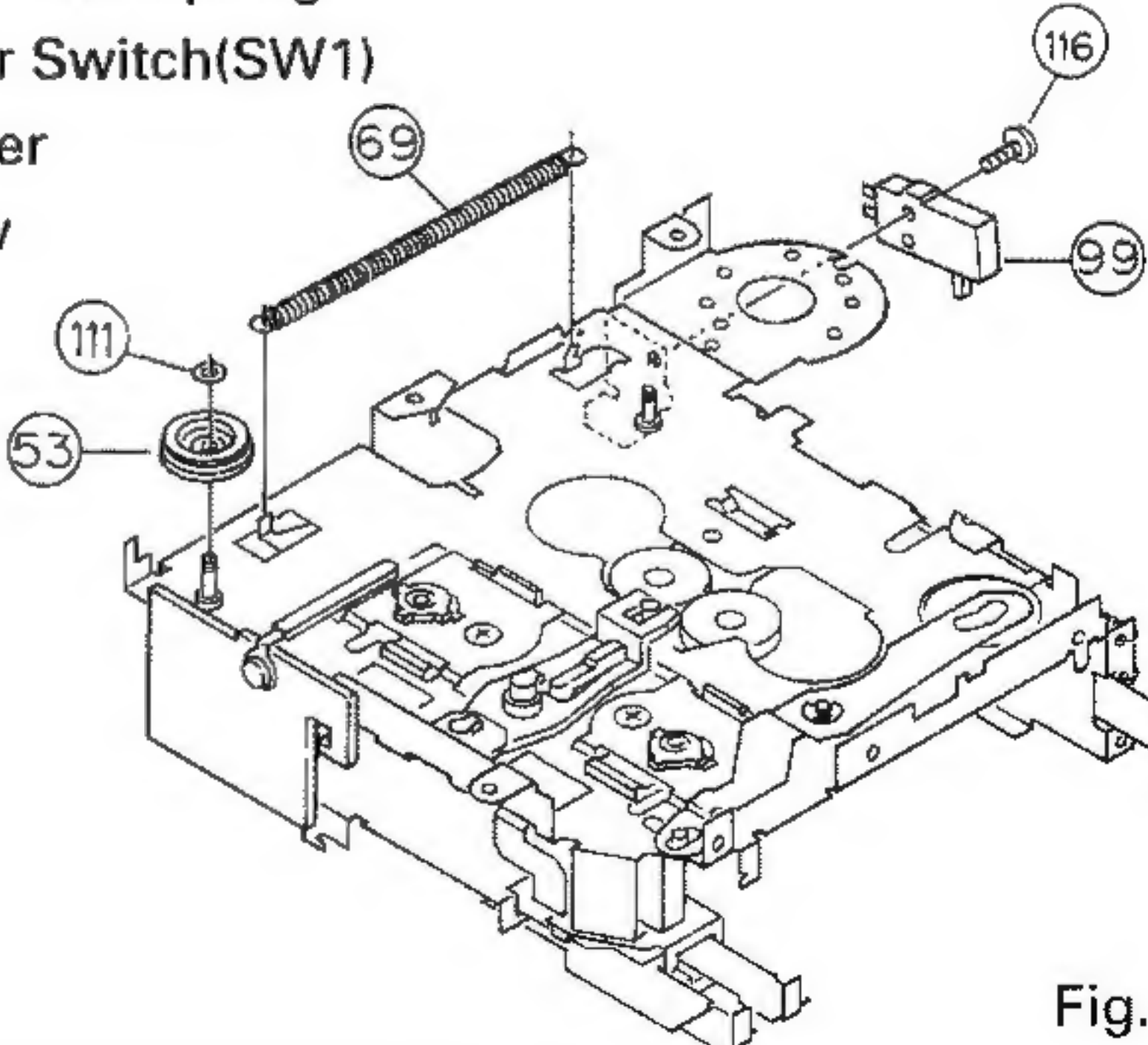


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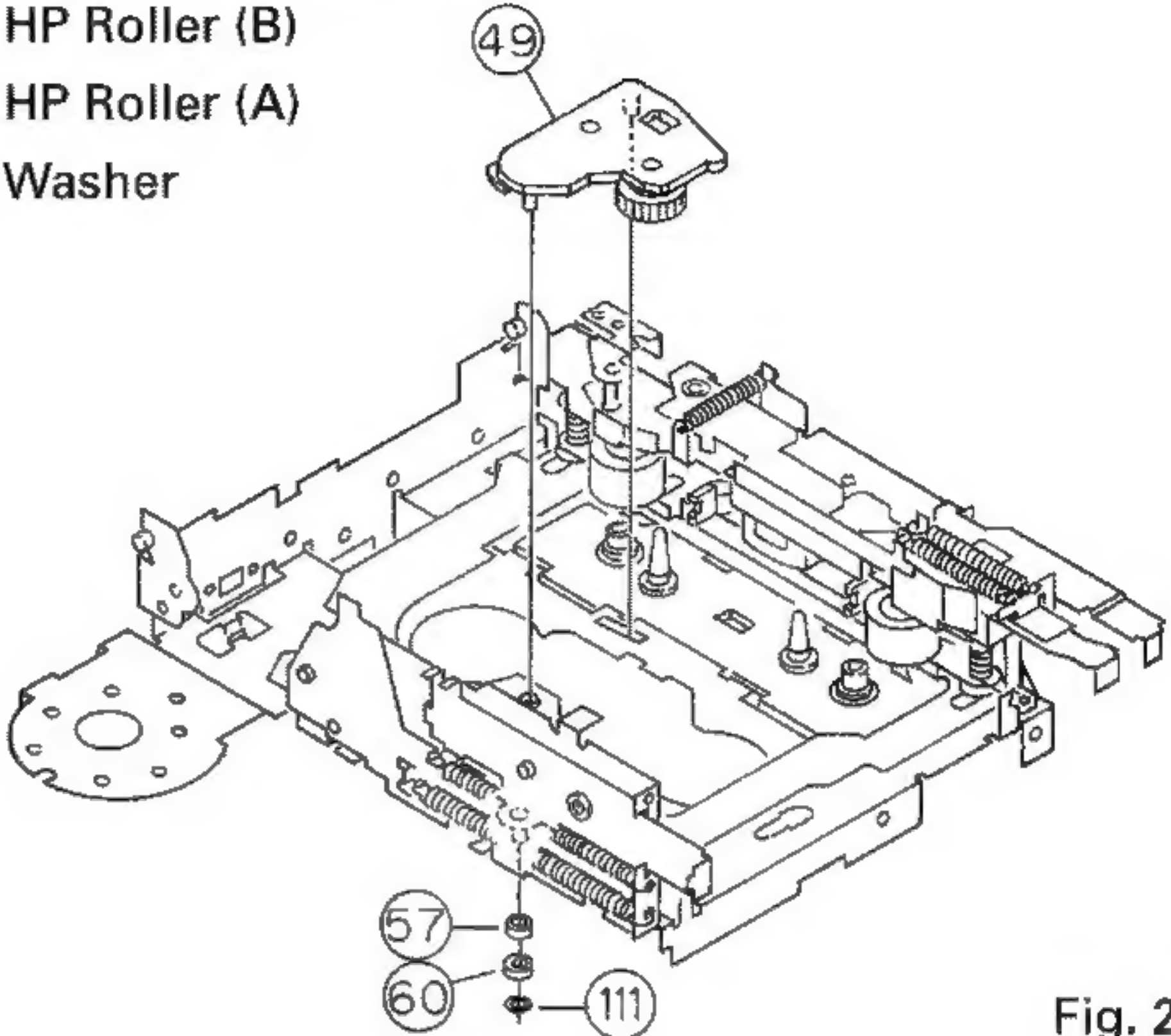
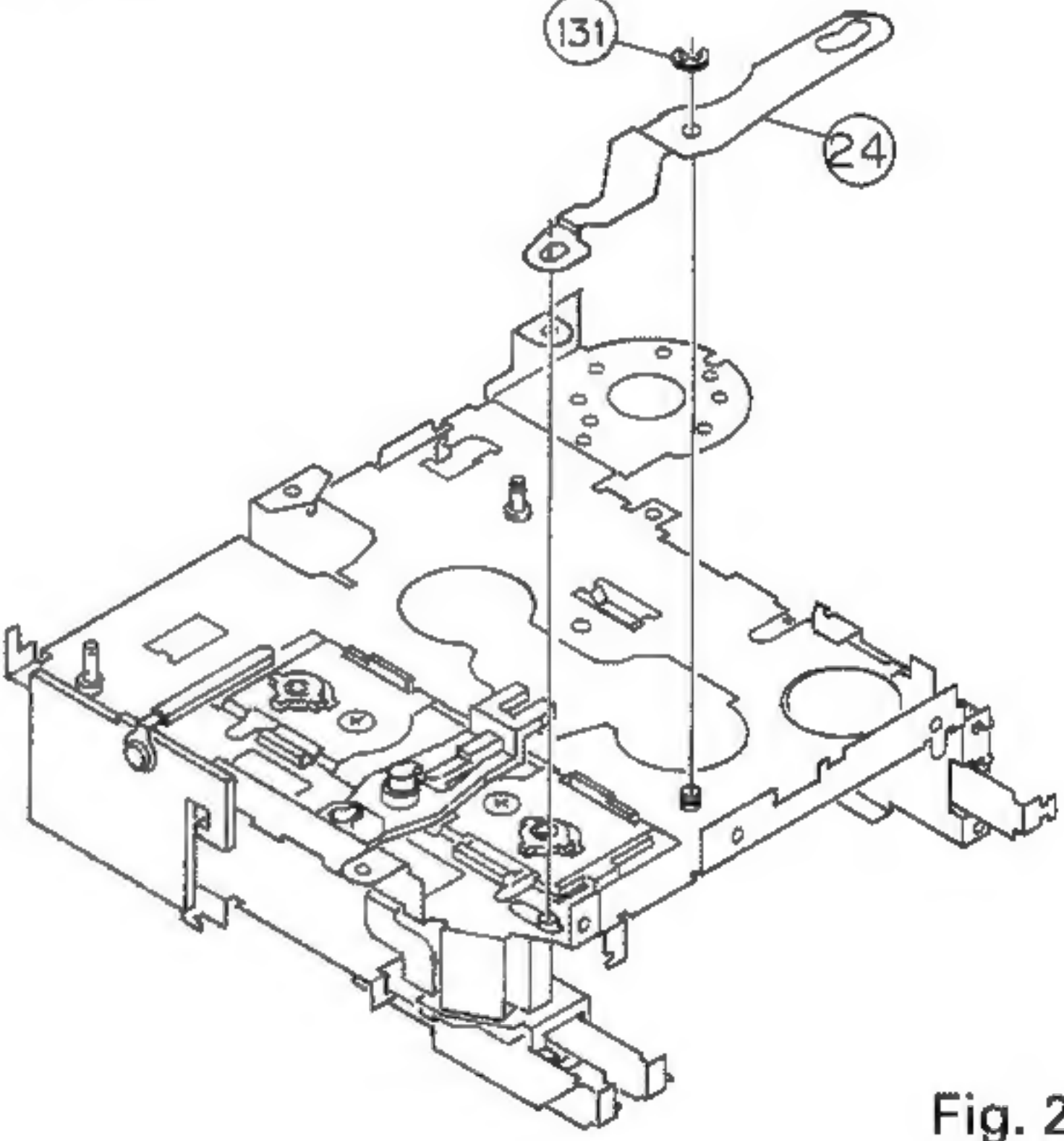
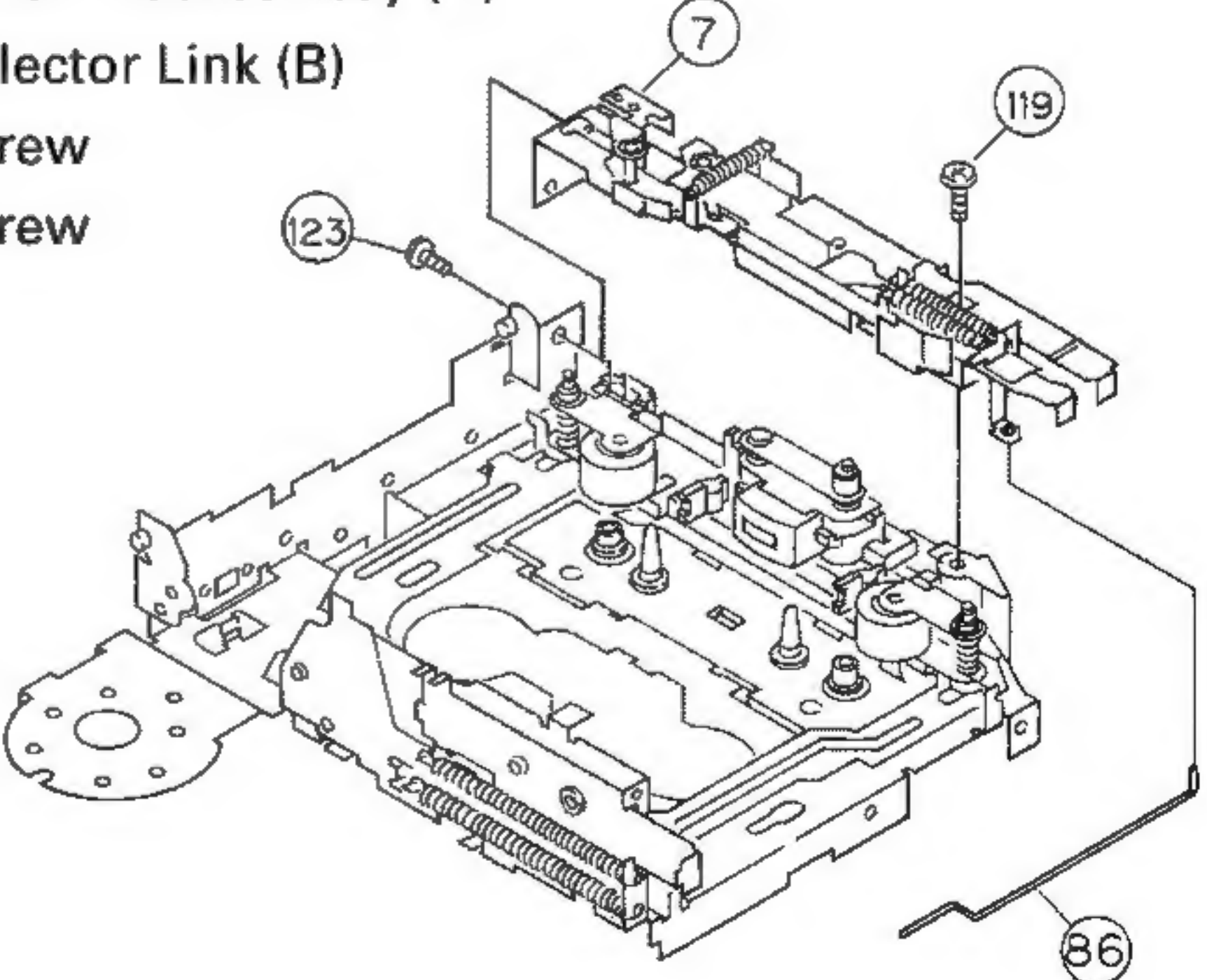
5. DISASSEMBLY PROCEDURES

1	<p>1-1 Open the teeth of the Eject Lever ②①, Cassette Hanger (X) ②② and Main Chassis Assy ①.</p> <p>1-2 While depressing the Eject Lever ②①, shift the Cassette Hanger (X) ②② toward the left side and remove it.</p>	<div><p>① Main Chassis Assy ②① Eject Lever ②② Cassette Hanger (X) ⑧⑨ Return Link</p></div> <p>Fig. 14</p>
2	<p>2-1 Remove the Main Belt ⑧⑦. Be careful not to damage or stain the belt with oil or grease.</p> <p>2-2 Remove the Screw ①①⑧ to remove the Mute Arm Collar ⑥③ and Mute Arm (N) ⑤①.</p>	<div><p>⑤① Mute Arm (N) ⑥③ Mute Arm Collar ⑧⑦ Main Belt ①①⑧ Screw</p></div> <p>Fig. 15</p>
3	<p>3-1 Remove the washers ①③① and the washers ①①③.</p> <p>3-2 Remove the Flywheel Assys ①②, ①⑥.</p>	<div><p>①② Flywheel Assy (BF) ①⑥ Flywheel Assy (BR) ①①③ Washer ①②⑧ Washer ①③① Washer</p></div> <p>Fig. 16</p>

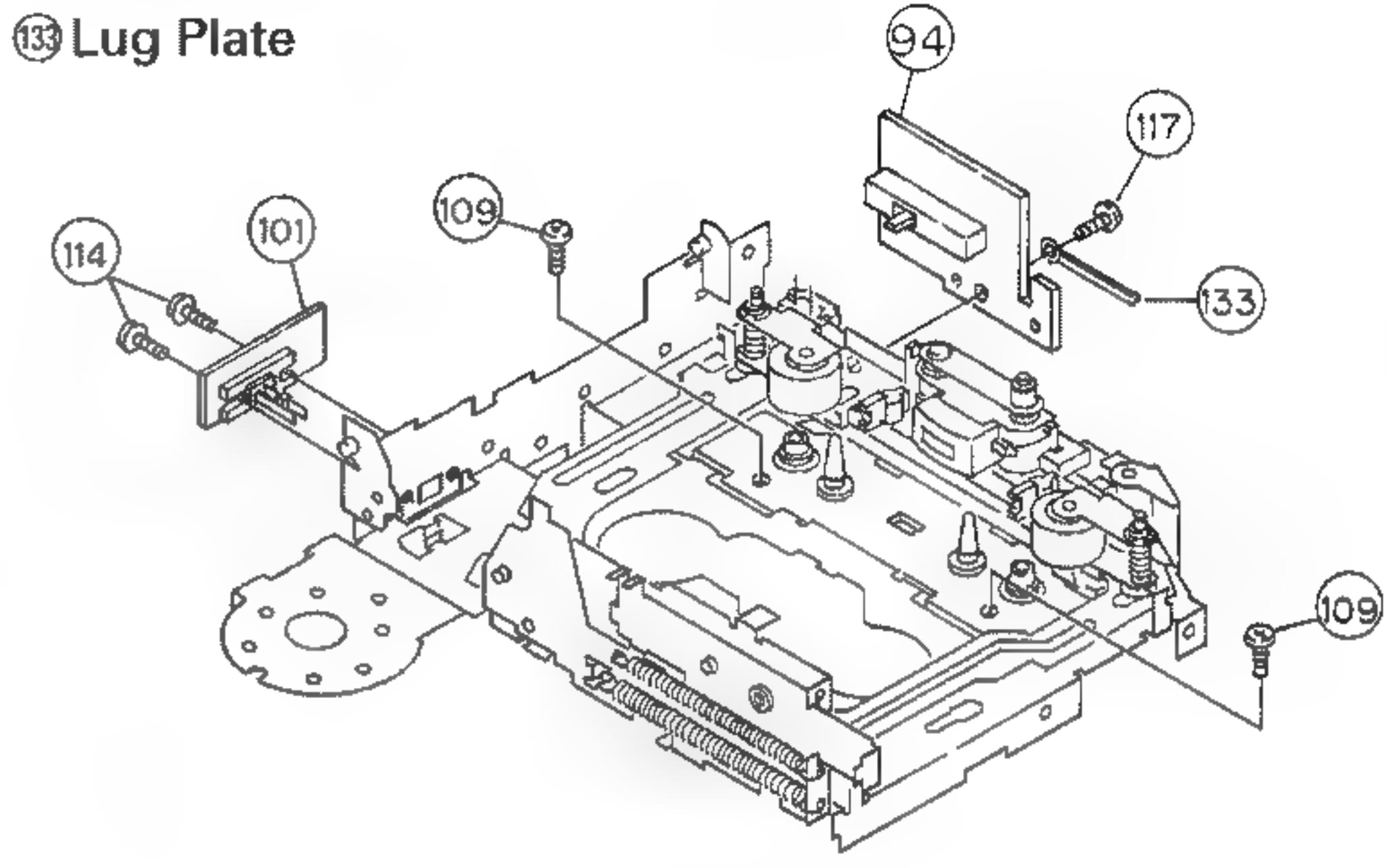
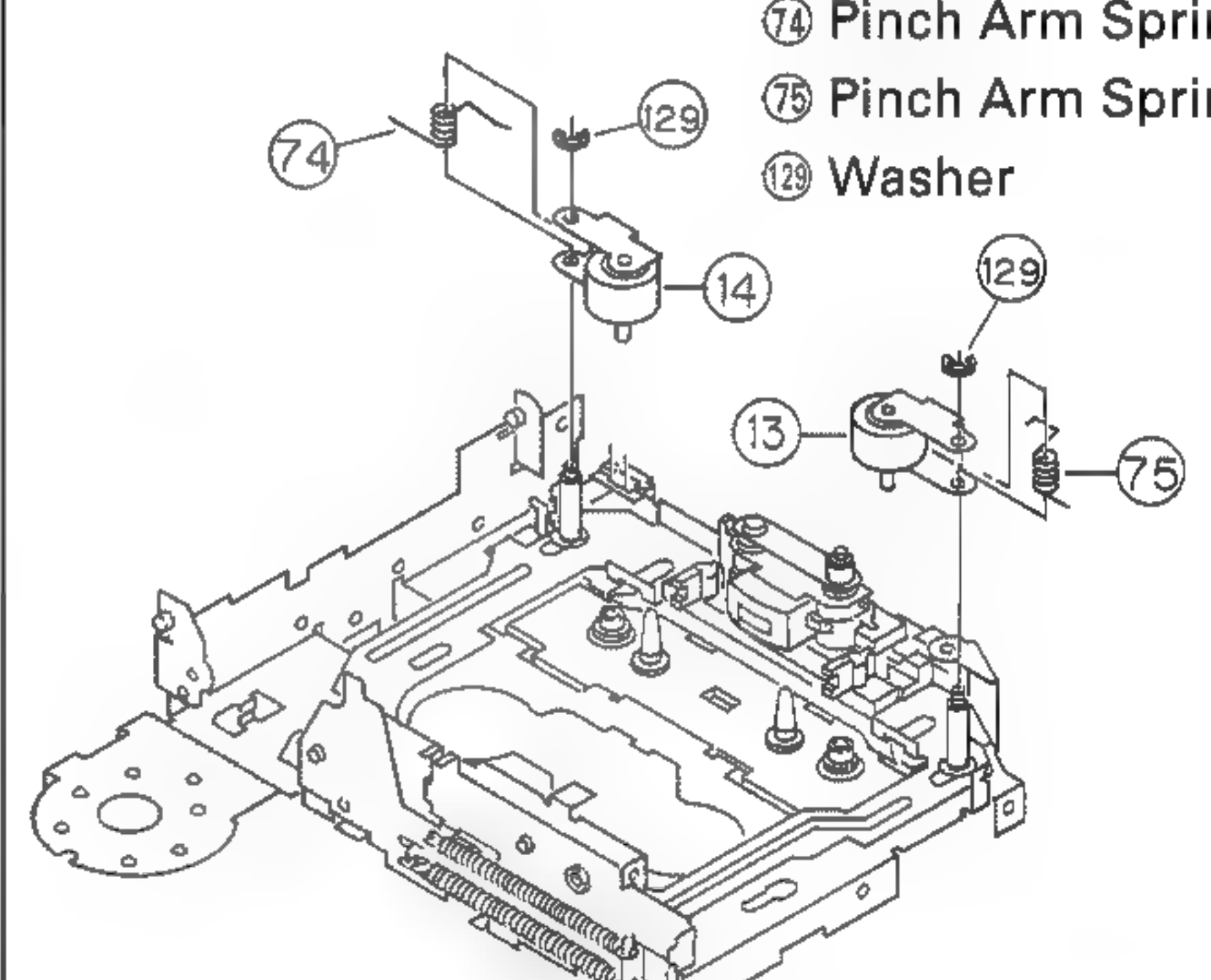
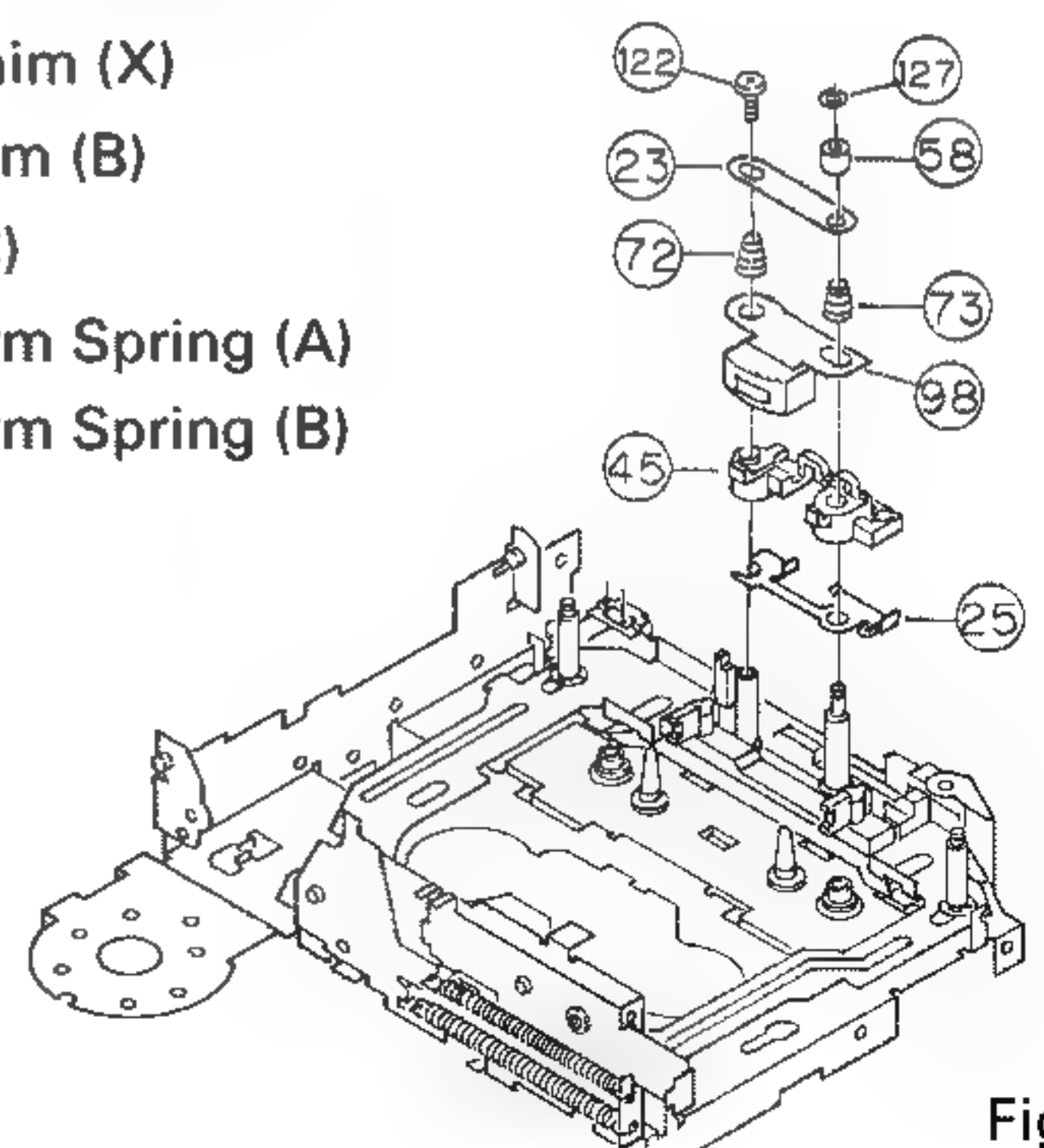


4	<p>4-1 Remove the Selector Link (B) ⑧⑥ from the tooth of the Ratchet ④①.</p> <p>4-2 Loosen the four Screws ①①⑦ to remove the Reel Base Assy ③.</p>	<p>③ Reel Base Assy ④① Ratchet ⑧⑥ Selector Link (B) ①①⑦ Screw</p>  <p>Fig. 17</p>
5	<p>5-1 Remove the Sub Belt (C) ⑧⑤, Be careful not to damage or stain the belt with oil or grease.</p> <p>5-2 Remove the Pulley Gear ③⑨.</p> <p>5-3 Loosen the Screws ①②① and remove the Motor Assy(M1) ⑨②.</p>	<p>③⑨ Pulley Gear ⑧⑤ Sub Belt (C) ⑨② Motor Assy(M1) ①②① Screw</p>  <p>Fig. 18</p>
6	<p>6-1 Loosen the Screw ①①⑥ to remove the Power Switch(SW1) ⑨⑨.</p> <p>6-2 Remove the Idle Pulley (A) ⑤③.</p> <p>6-3 Remove the Head Plate Spring ⑥⑨.</p>	<p>⑤③ Idle Pulley (A) ⑥⑨ Head Plate Spring ⑨⑨ Power Switch(SW1) ①①① Washer ①①⑥ Screw</p>  <p>Fig. 19</p>

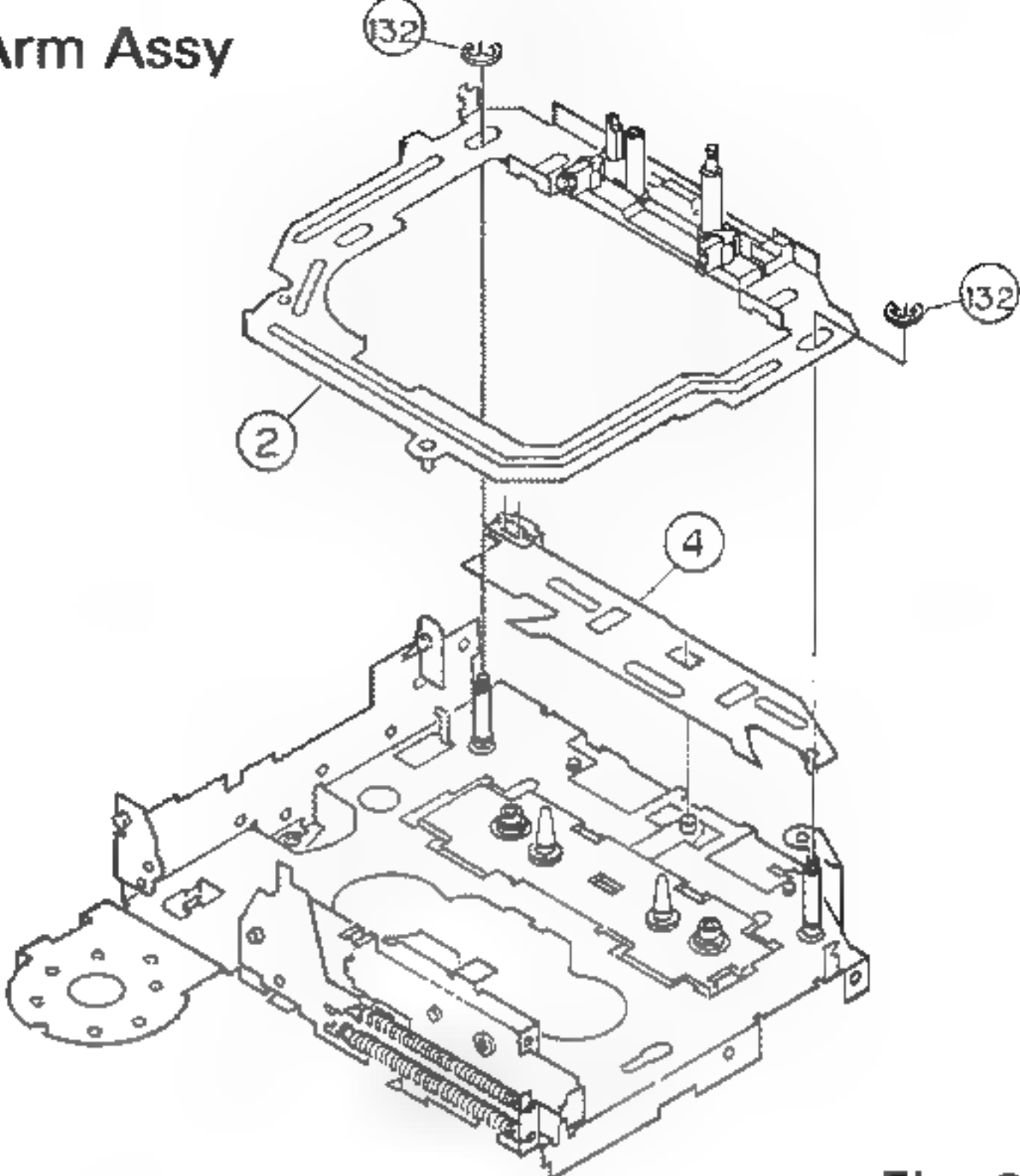
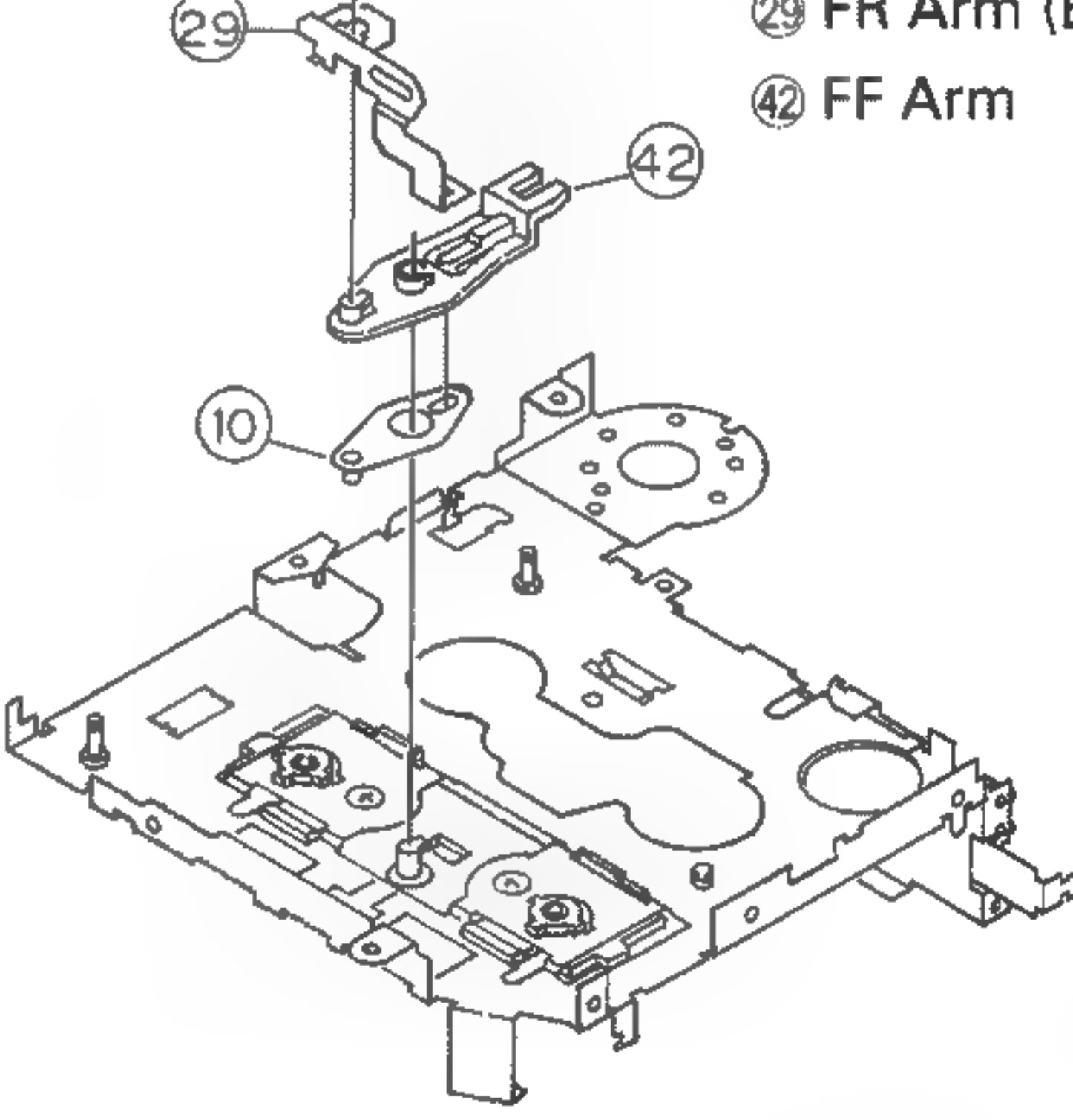
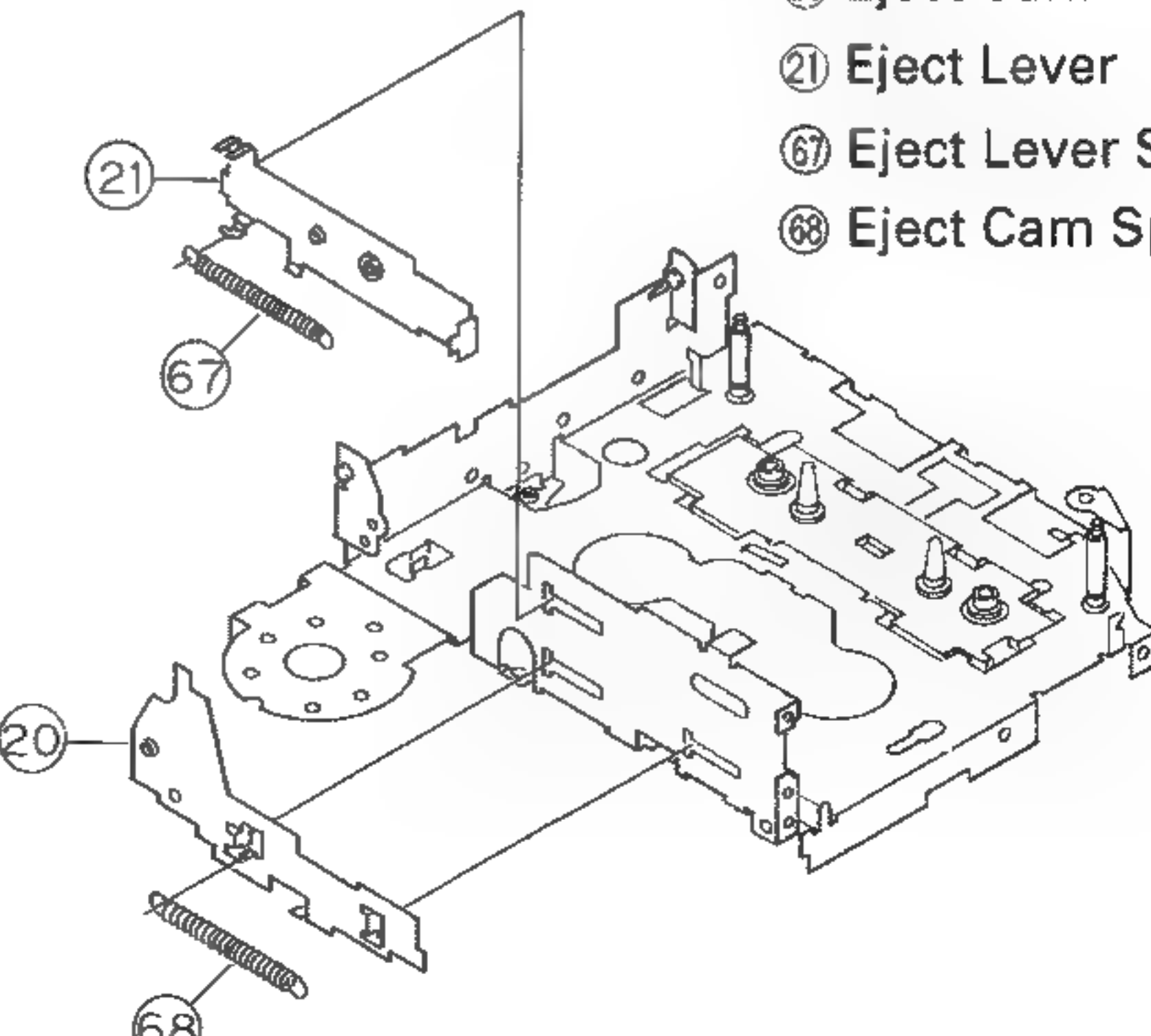
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7	<p>7-1 Remove the TU Gear Arm Assy ④⑨.</p> <p>7-2 Remove the Washer ①① to remove the HP Roller (A) ⑥① and HP Roller (B) ⑤⑦.</p>	<p>④⑨ TU Gear Arm Assy ⑤⑦ HP Roller (B) ⑥① HP Roller (A) ①① Washer</p>  <p>Fig. 20</p>
8	<p>8-1 Remove the Washer ①③ to remove the Conversion Lever ②④.</p>	<p>②④ Conversion Lever ①③ Washer</p>  <p>Fig. 21</p>
9	<p>9-1 Remove the Screws ①①⑨, ①②③ to remove the Lever Bracket Assy (D) ⑦.</p> <p>9-2 Remove the Selector Link (B) ⑧⑥.</p>	<p>⑦ Lever Bracket Assy (D) ⑧⑥ Selector Link (B) ①①⑨ Screw ①②③ Screw</p>  <p>Fig. 22</p>

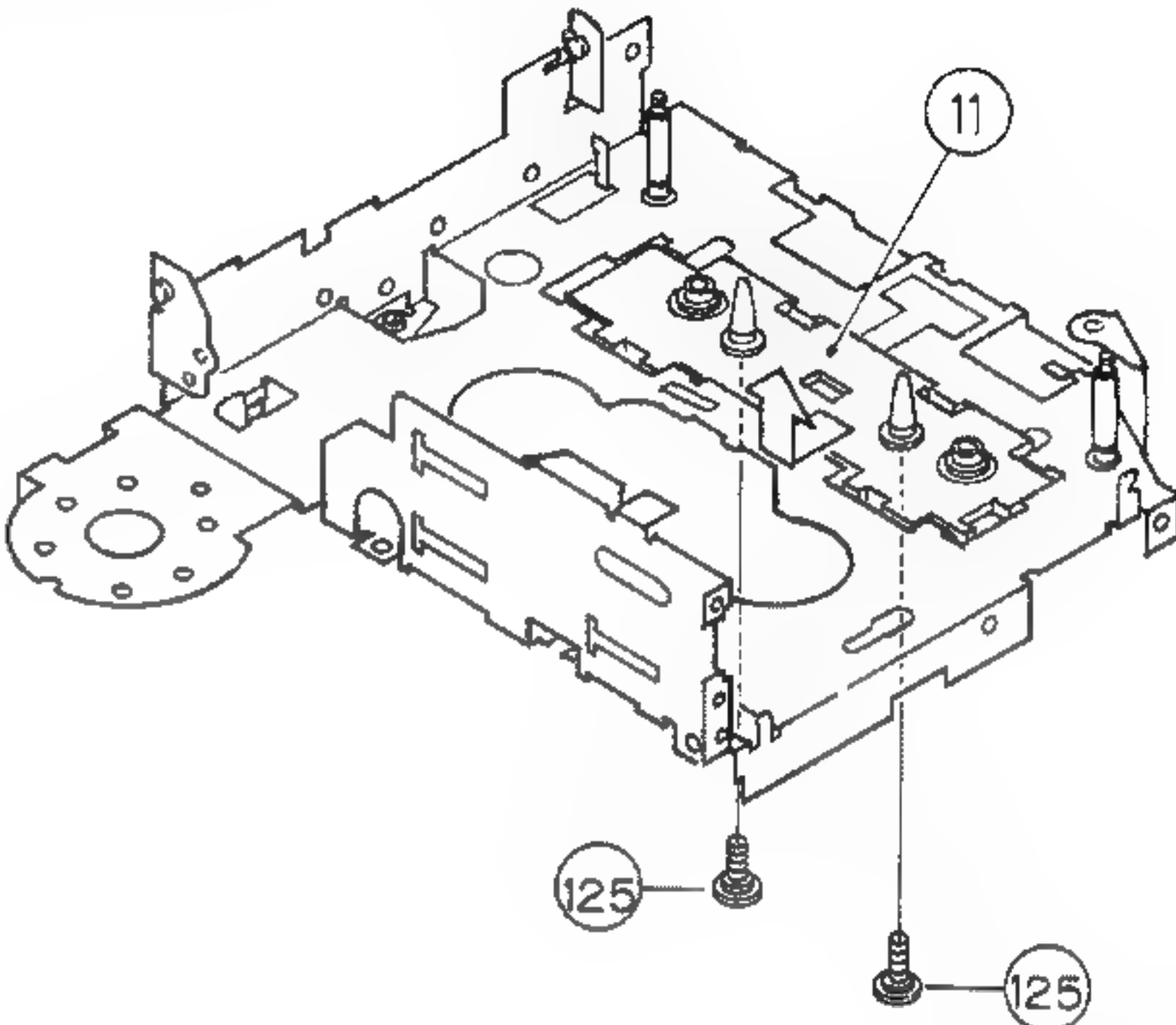


10	<p>10-1 Remove the two Screws ⑪④ to remove the Mute PWB ⑩①.</p> <p>10-2 Remove the Screw ⑪⑦ to remove the SW PWB ⑨④.</p> <p>10-3 Remove the two Screws ⑩⑨.</p>	<p>⑨④ SW PWB ⑩① Mute PWB ⑩⑨ ⑪④ ⑪⑦ Screw ⑬③ Lug Plate</p>  <p>Fig. 23</p>
11	<p>11-1 Remove the Washer ⑫⑨ to remove the Pinch Arm (F) Assy (PS) ⑭④ and Pinch Arm Spring (F) ⑦④.</p> <p>11-2 Remove the Washer ⑫⑨ to remove the Pinch Arm (R) Assy (PS) ⑬③ and Pinch Arm Spring (R) ⑦⑤.</p>	<p>⑬③ Pinch Arm (R) Assy (PS) ⑭④ Pinch Arm (F) Assy (PS) ⑦④ Pinch Arm Spring (F) ⑦⑤ Pinch Arm Spring (R) ⑫⑨ Washer</p>  <p>Fig. 24</p>
12	<p>12-1 Remove the Washer ⑫⑦ and Screw ⑫②. Remove the FF Roller (C) ⑤⑧, SPG Support Plate ②③, Adjuster Arm Spring ⑦②, ⑦③, Head(HD1) ⑨⑧, Adjuster Arm (B) ④⑤ and Adjuster Shim (X) ②⑤.</p>	<p>②③ SPG Support Plate ②⑤ Adjuster Shim (X) ④⑤ Adjuster Arm (B) ⑤⑧ FF Roller (C) ⑦② Adjuster Arm Spring (A) ⑦③ Adjuster Arm Spring (B) ⑨⑧ Head(HD1) ⑫② Screw ⑫⑦ Washer</p>  <p>Fig. 25</p>

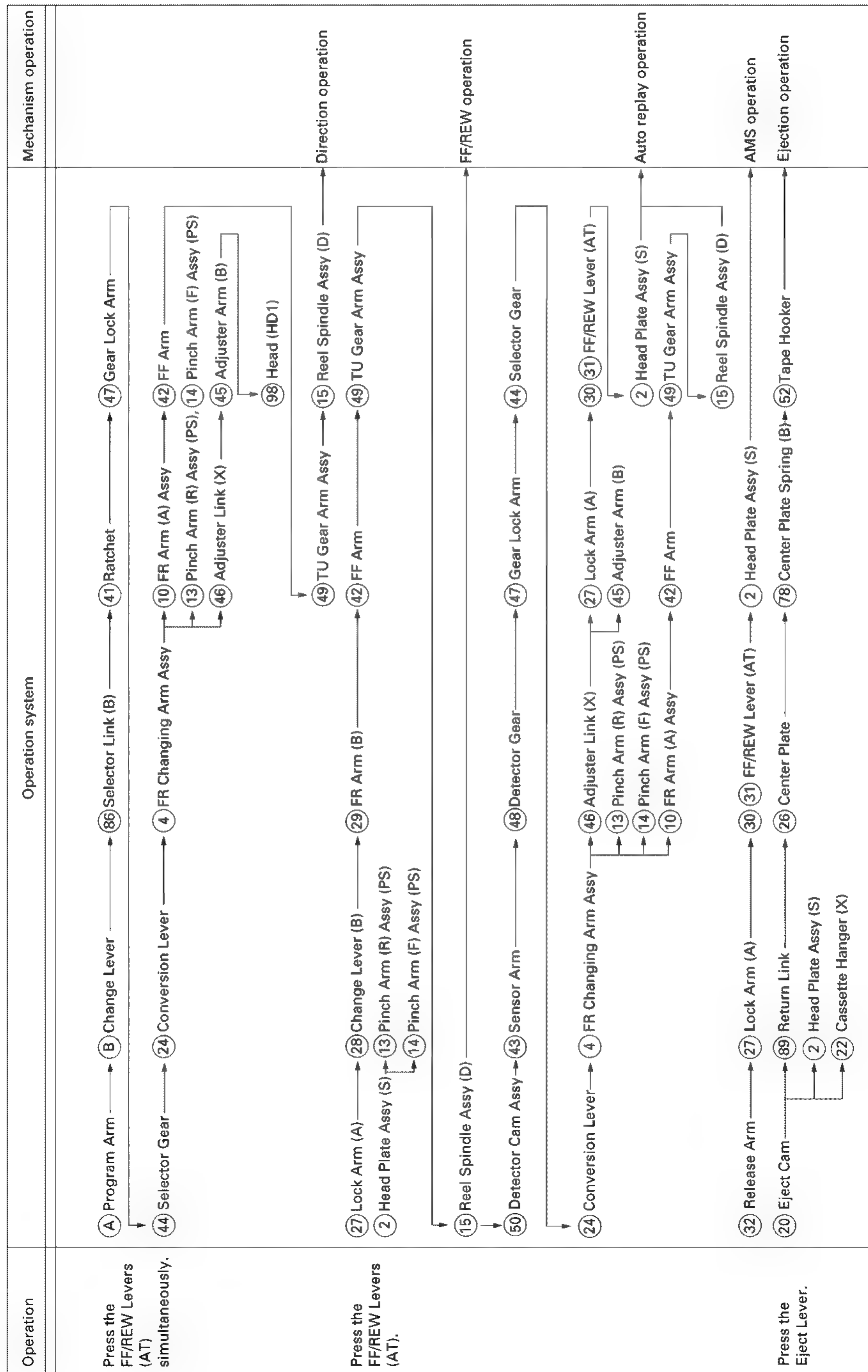
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13	<p>13-1 Remove the two Washers ⑬ to remove the Head Plate Assy (S) ②.</p> <p>13-2 Remove the FR Changing Arm Assy ④.</p>	<p>② Head Plate Assy (S) ④ FR Changing Arm Assy ⑬ Washer</p>  <p>Fig. 26</p>
14	<p>14-1 Move the FR Arm (B) ②9 toward the Idle Pulley (A) Shaft, then remove it from the tooth of the FF Arm ④2.</p> <p>14-2 Move the FF Arm ④2 to the FWD side. Disengage the projecting portion from the hole of the FR Arm (A) Assy ⑩ to remove the FF Arm ④2.</p> <p>14-3 Remove the FR Arm (A) Assy ⑩.</p>	<p>⑩ FR Arm (A) Assy ②9 FR Arm (B) ④2 FF Arm</p>  <p>Fig. 27</p>
15	<p>15-1 Remove the Eject Lever Spring ⑥7 and Eject Cam Spring ⑥8.</p> <p>15-2 Remove the Eject Lever ②1 and Eject Cam ②0.</p>	<p>②0 Eject Cam ②1 Eject Lever ⑥7 Eject Lever Spring ⑥8 Eject Cam Spring</p>  <p>Fig. 28</p>



16	<p>16-1 Remove the two Screws ⑫. Move the CM Bracket Assy (PH) ⑪ in the direction shown by the arrow, then remove the CM Bracket Assy(PH) ⑪.</p>	<p>⑪ CM Bracket Assy (PH) ⑫ Screw</p>  <p>Fig. 29</p>
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## 2





## 2. NAMES OF PARTS

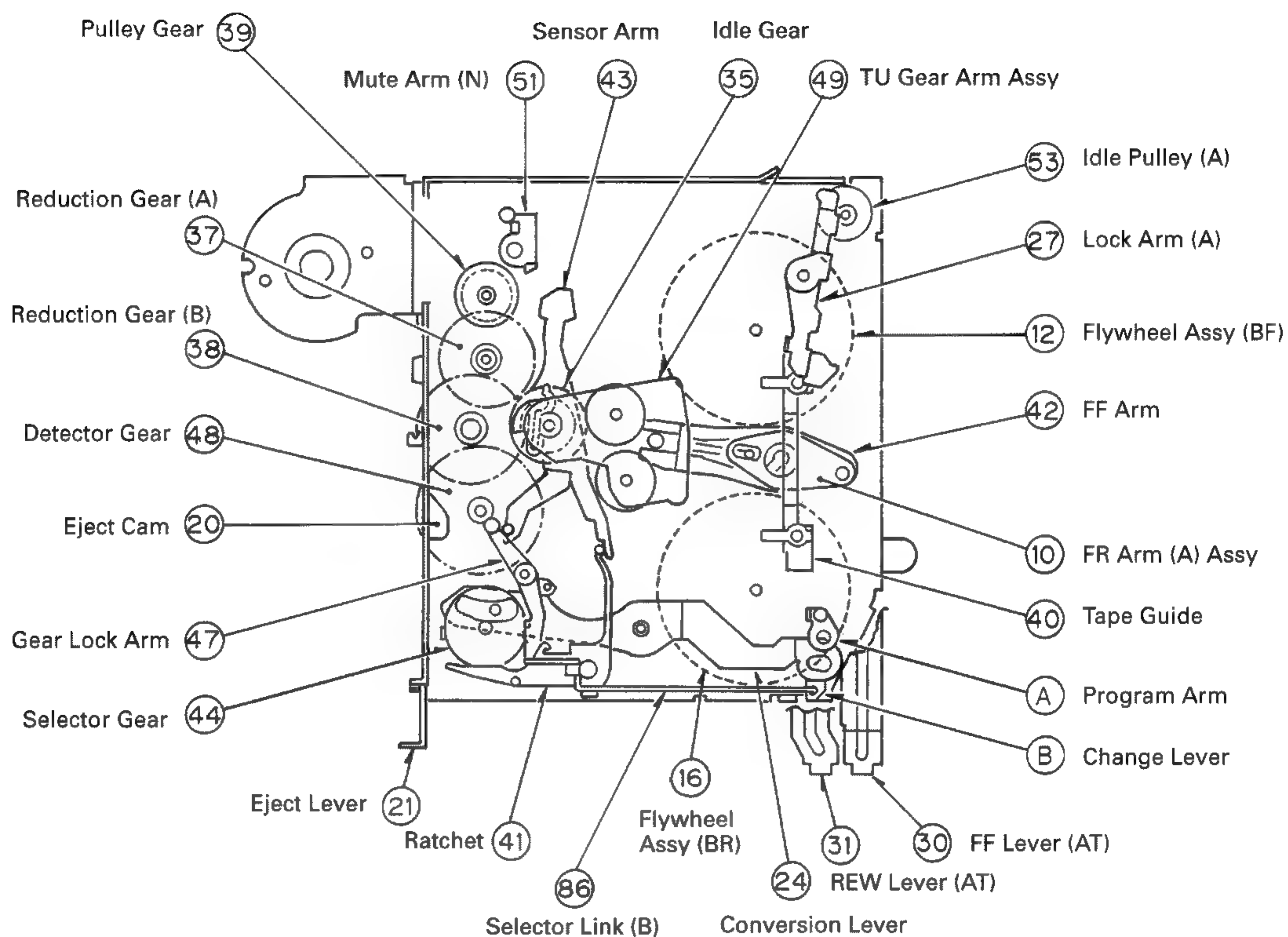


Fig. 1

CASSETTE MECHANISM

3. OUTLINE OF ELECTRIC-PART LINKAGE

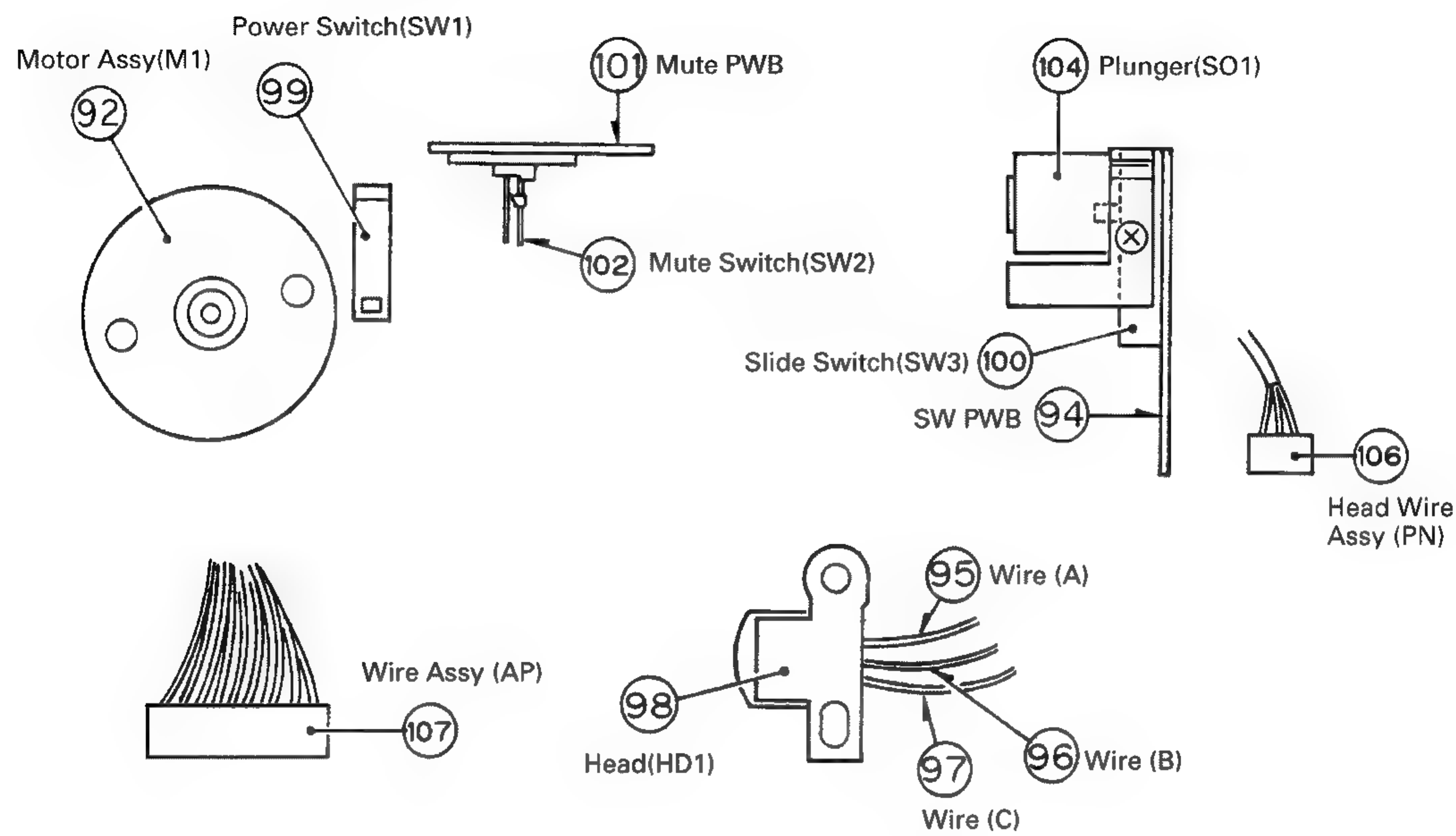


Fig. 2



## 4. MAIN OPERATIONS

### 4.1 OPERATION OF THE DETECTION MECHANISM

- (1) The Detector Cam Assy ⑤① generates rotational power in the direction B as shown by an arrow in the Fig.3 as the Reel Spindle Assy (D) ①⑤ rotates.
- (2) The Sensor Arm ④③ turns as shown by the arrows C in the Fig. 3, on the fulcrum A by the rotational force of the Detector Cam Assy ⑤①.
- (3) The Detector Gear ④⑧ always rotates. The sensing pin of the Sensor Arm ④③ moves along the outer cam.

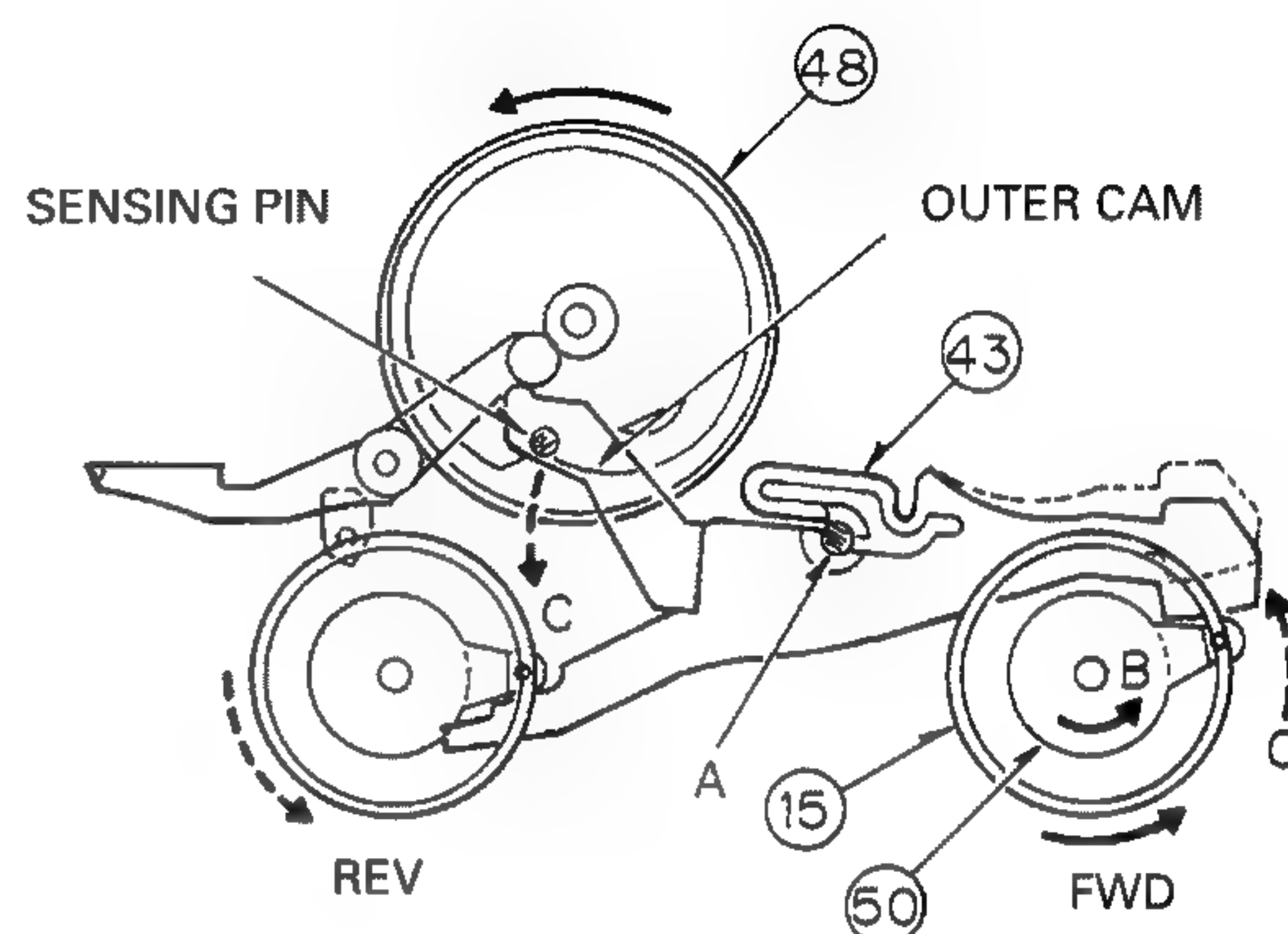


Fig. 3

- (4) When the Reel Spindle Assy (D) ①⑤ stops (or tape rewinding is completed), the Detector Cam Assy ⑤① also stops.
- (5) When the Detector Cam Assy ⑤① stops, the Sensor Arm ④③ also stops turning in the direction C (Fig.3), and stands still.
- (6) The sensing pin of the Sensor Arm ④③ is pushed toward the fulcrum of the Detector Gear ④⑧ by the inside cam of the Detector Gear ④⑧. (Fig.4)
- (7) This movement unlocks the Gear Lock Arm ④⑦ from the Selector Gear ④④. The Selector Gear ④④ rushes toward the Detector Gear ④⑧ with the pressure of the Dash Spring ⑦⑦. When the Selector Gear ④④ gets engaged with the Detector Gear ④⑧, the Selector Gear ④④ starts rotating.

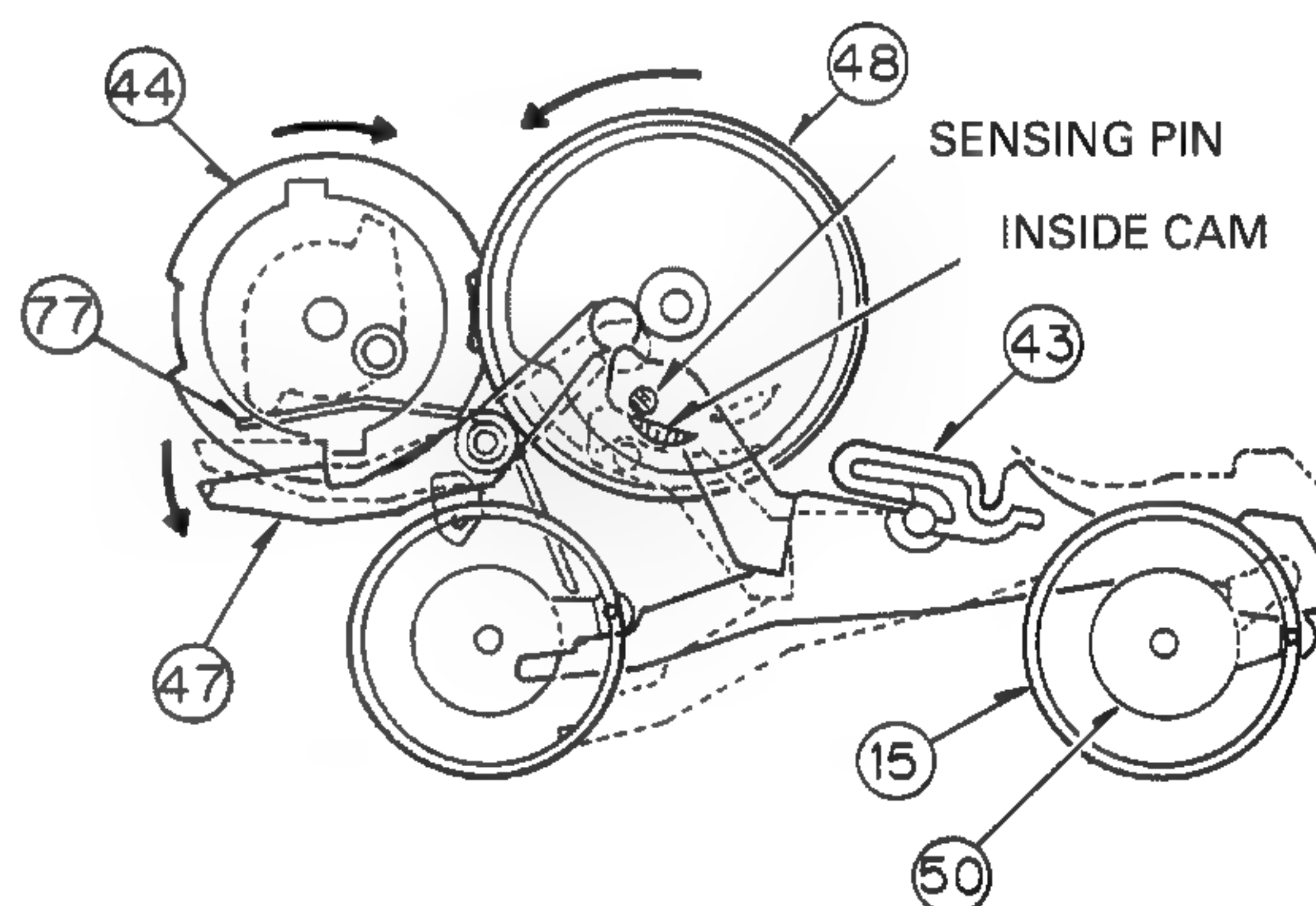
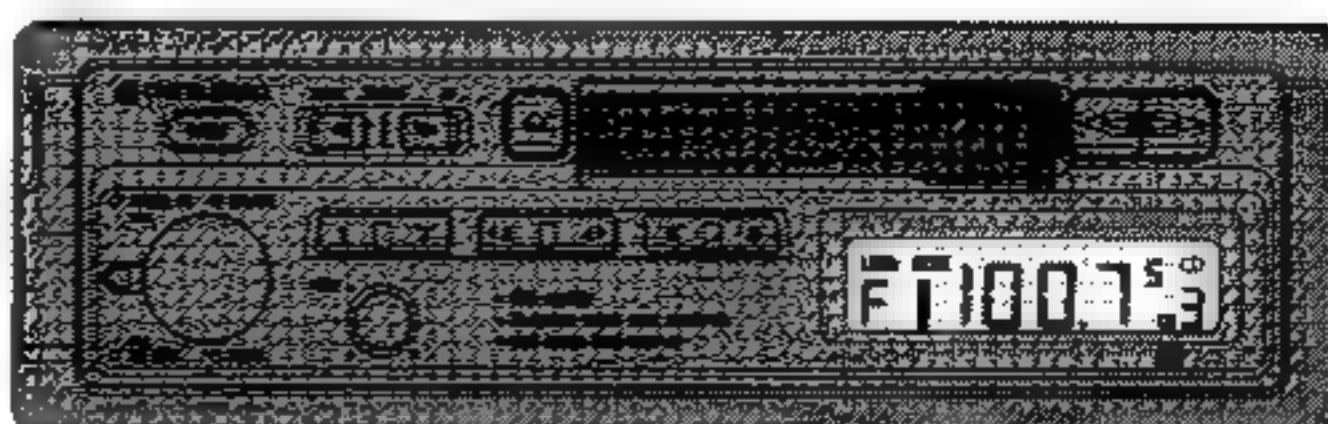


Fig. 4

# Service Manual

 **PIONEER®**  
The Art of Entertainment

KEH-1010QR



ORDER NO.  
CRT2122

CASSETTE CAR STEREO WITH FM/MW/LW ELECTRONIC TUNER

## KEH-1010QR

 X1M/EE

CASSETTE CAR STEREO WITH FM/AM ELECTRONIC TUNER

## KEH-1050QR

 X1M/ES

CASSETTE CAR STEREO WITH FM/AM/SW ELECTRONIC TUNER

## KEH-1050QRS

 X1M/ES

### NOTE:

- See the separate manual CRT2145 for the cassette mechanism description.

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**PIONEER ELECTRONIC SERVICE INC.** P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A  
**PIONEER ELECTRONIC [EUROPE] N.V.** Haven 1087 keetberglaan 1, 9120 Melsele, Belgium  
**PIONEER ELECTRONIC ASIACENTRE PTE.LTD.** 501 Orchard Road, #10-00, Wheelock Place, Singapore 238880



## **1. SAFETY INFORMATION**

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

### **WARNING!**

Lithium batteries. Danger of explosion. Replacement must be done by qualified personnel and only by following the instructions given in the service manual.

This warning is stated on the product or in the operating instructions. When replacing the lithium batteries, follow the note below.

Dispose of the used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.

The battery used in this device may present a fire or chemical hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate. Replace only with the same Part Number. Use of another battery may present a risk of fire or explosion.

Note: The lithium battery installation position is shown in the exploded view and the P.C. board pattern.

### **ADVARSEL!**

Lithiumbatteri — Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

Denne advarsel er angivet på produktet eller i brugsvejledningen. Ved udskiftning af lithium batterierne følges nedenstående anvisning.

Batterierne må kun udskiftes med batterier af samme type og mærke.

### **VARNING**

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

Denna varning finns på apparaten eller i bruksanvisningen. Följ nedanstående anvisningar vid byte av litiumbatterier. Batterierna får endast bytas ut mot litiumbatterier av samma typ och fabrikat.

## 2. EXPLODED VIEWS AND PARTS LIST

### 2.1 PACKING

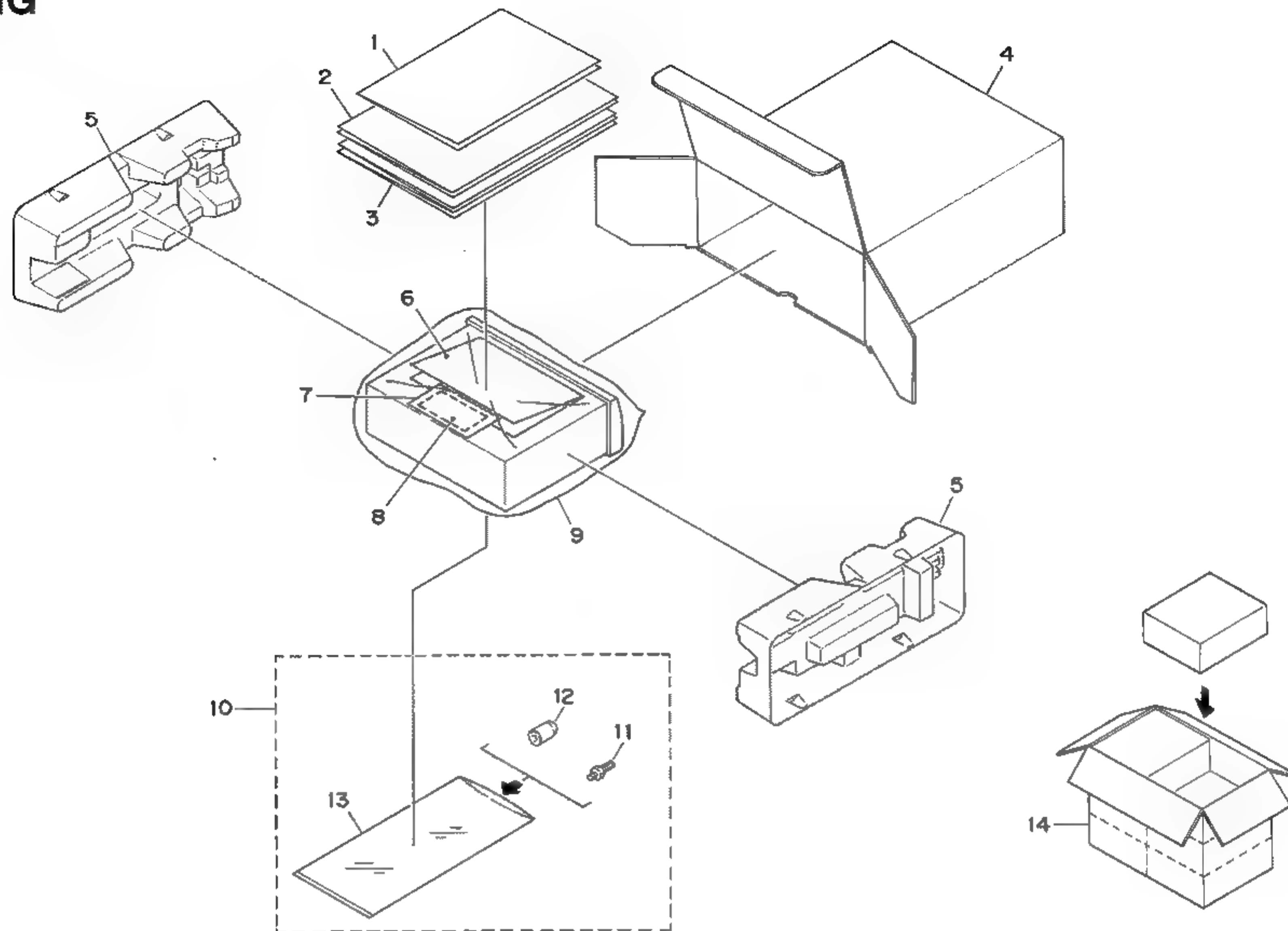


Fig.1

#### NOTE :

- Parts marked by “\*” are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ▼ mark on the product are used for disassembly.

#### (1)PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Warranty Card	See Contrast table(2)	6	Card	CRP1174
2	Owner's Manual	See Contrast table(2)	7	Card	CRP1176
3	Installation Manual	See Contrast table(2)	8	Silica Gel	AEN7001
4	Carton	See Contrast table(2)	9	Polyethylene Bag	CZE2903
5	Protector	CZH5523	10	Accessory Assy	CZE2945
			11	Screw	CBA1002
			12	Bush	CNV1009
			13	Polyethylene Bag	CZE2908
			14	Contain Box	See Contrast table(2)

#### (2)CONTRAST TABLE

KEH-1010QR/X1M/EE, KEH-1050QR/X1M/ES and KEH-1050QRS/X1M/ES have the same construction except for the following:

Mark No. Symbol and Description	Part No.		
	KEH-1010QR/X1M/EE	KEH-1050QR/X1M/ES	KEH-1050QRS/X1M/ES
1 Warranty Card	CRY1087	Not used	Not used
2 Owner's Manual	CZR2926	CZR2928	CZR2930
3 Installation Manual	CZR2927	CZR2929	CZR2929
4 Carton	CZH5561	CZH5559	CZH5563
14 Contain Box	CZH5562	CZH5560	CZH5564

#### Owner's Manual or Installation Manual

Part No.	Language	Part No.	Language
CZR2926	English, Rosia	CZR2929	English, Spanish, Portugal, Arabic
CZR2927	English, Rosia	CZR2930	English, Spanish, Portugal, Arabic
CZR2928	English, Spanish, Portugal, Arabic		



2.2 EXTERIOR

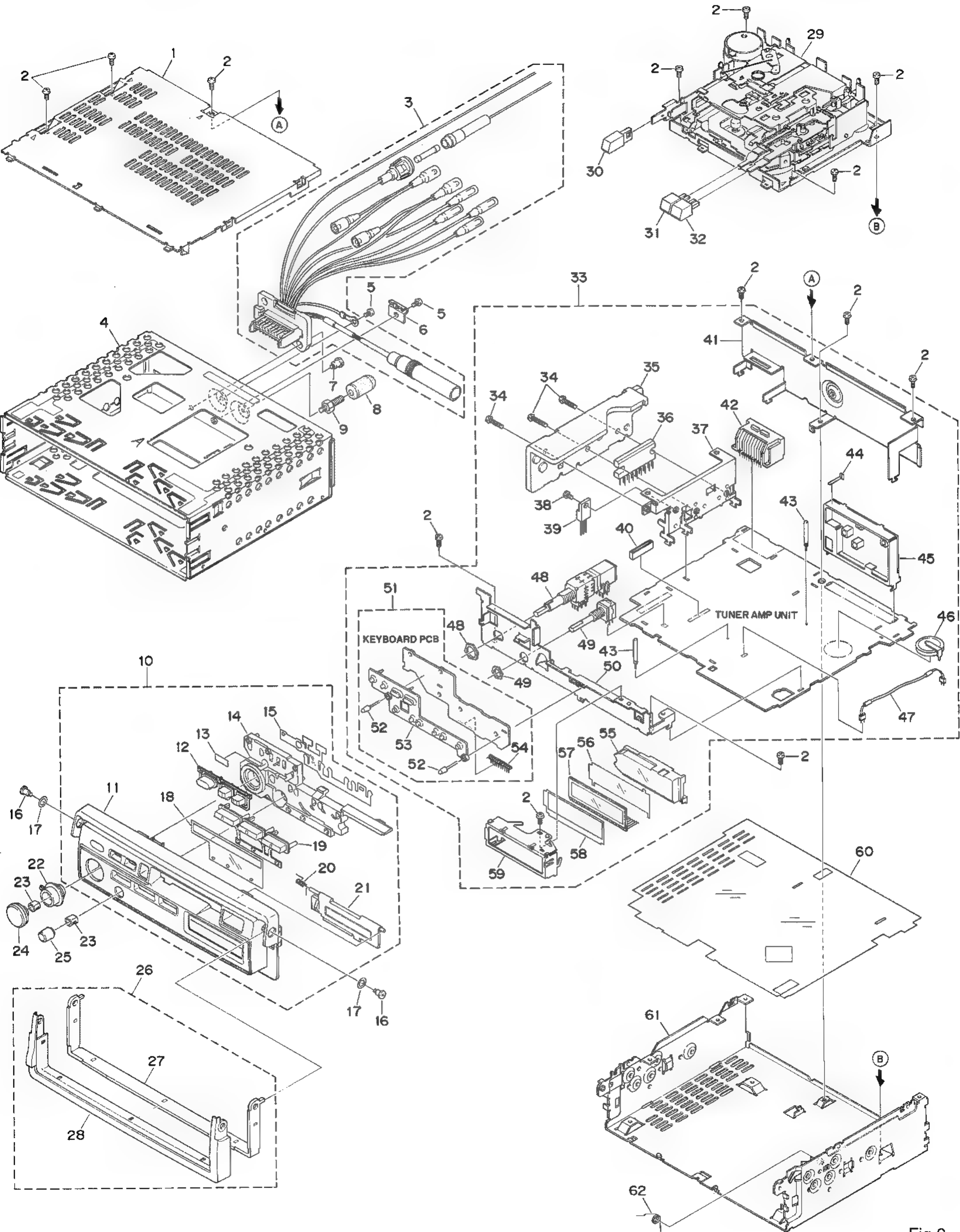


Fig.2

**● EXTERIOR**
**(1)PARTS LIST**

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Cover	CZN6707	31	Button (REW)	CZA5515
2	Screw	BSZ26P060FMC	32	Button (FF)	CZA5514
3	Cord Assy	See Contrast table(2)	33	Tuner Amp Unit	See Contrast table(2)
4	Box	CZN6710	34	Screw	BMZ26P120FMC
5	Screw	BSZ30P050FMC	35	Heat Sink	CZN6702
6	Holder	CZN6625	36	IC (IC400)	TA8215H
7	Screw	CBA1073	37	IC Fixer	CZN6701
8	Bush	CNV1009	38	Screw	BMZ30P060FMC
9	Screw	CBA1002	39	Transistor (Q501)	2SD2394(DEF)
10	Grille Assy	See Contrast table(2)	40	Plug (11P)(CN201)	CZK2938
11	Grille	See Contrast table(2)	41	Rear Chassis	CZN6723
12	Button (BAND, DOWN/TUNING/UP)	CZA5517	42	Plug (20P)(CN401)	CZK2930
13	Sheet	CZN6729	43	Clamper	CZK2923
14	Lens	CZN6713	44	Plate	CZN6730
15	Sheet	CZN6732	45	Tuner Unit (TU100)	See Contrast table(2)
16	Screw	CZB2921	46	Battery (B1)	CZE2949
17	Washer	CZB2968	47	Connector (2P)(CN1-2)	CZD2975
18	Sheet	CZN6731	48	Volume (VR401)	CZC2638
19	Button (1-6)	CZA5518	49	Volume (VR301)	CZC2637
20	Spring	CZB2973	50	Bracket	CZN6699
21	Door	CZA5519	51	Keyboard PCB	See Contrast table(2)
22	Knob (FAD)	CZA2982	52	Lamp (PL601,PL602)	See Contrast table(2)
23	Spring	CZA2949	53	Rubber Contact	CZN6717
24	Knob (VOLUME)	CZA2981	54	Connector (10P)(CN601)	CZK2932
25	Knob (TONE)	CZA5520	55	Lens	CZN6714
26	Handle Assy	CZX2995	56	Sheet	CZN6719
27	Handle	CZN6708	57	LCD (LCD1)	CZA5526
28	Cover	CZN6715	58	Sheet	CZN6728
29	Cassette Mechanism Assy	CZX2994	59	Bracket	CZN6704
30	Button (EJECT)	CZA5516	60	Insulator	CZN6709
			61	Chassis Assy	CZN6695
			62	Spring	CZB2972

**(2)CONTRAST TABLE**

KEH-1010QR/X1M/EE,KEH-1050QR/X1M/ES and KEH-1050QRS/X1M/ES have the same construction except for the following:

Mark No.	Symbol and Description	Part No.		
		KEH-1010QR/X1M/EE	KEH-1050QR/X1M/ES	KEH-1050QRS/X1M/ES
3	Cord Assy	CZD2970	CZD2970	CZD2972
10	Grille Assy	CZX2998	CZX2997	CZX2999
11	Grille	CZN6720	CZN6711	CZN6721
33	Tuner Amp Unit	CZW5504	CZW5501	CZW5506
45	Tuner Unit (TU100)	CZW2996	CZW2997	CZW2998
51	Keyboard PCB	CZW5503	CZW3000	CZW3000
52	Lamp (PL601,PL602)	CZE2948	CZE2947	CZE2947



2.3 CASSETTE MECHANISM MODULE

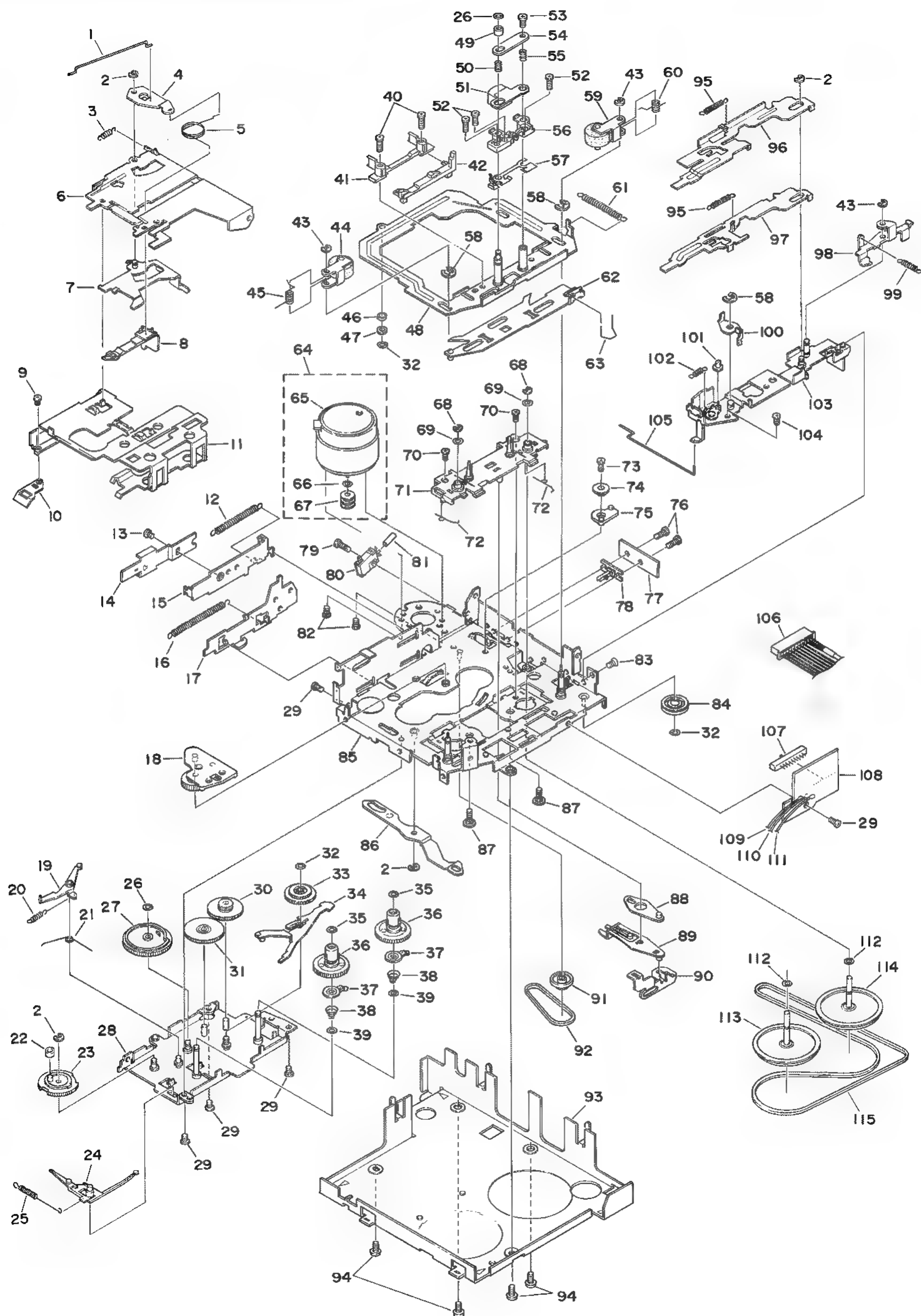


Fig.3

● CASSETTE MECHANISM MODULE

(1)PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Link	1-0036-5006	46	Roller	1-0036-3024
2	E-Ring	2-1712-0050-16	47	Roller	1-0036-3002
3	Spring	1-0036-4007	48	Plate Assy	X-0036-6082
4	Plate	1-0036-1018	49	Roller	1-0036-3004
5	Spring	1-0036-4023	50	Spring	1-0036-4011
6	Hanger	1-0138-1002	51	Head (HD1)	1-0036-7084-1
7	Lock Assy	X-0036-1019	52	Screw	1-0138-5002
8	Hooker	1-0058-2004	53	Screw	2-1012-0040-C2
9	Screw	2-1032-4016-F2	54	Plate	1-0036-1015
10	Guide	1-0036-1078	55	Spring	1-0036-4010
11	Holder	1-0138-1010-3	56	Arm	1-0138-2005-3
12	Spring	1-0036-4004	57	Shim	1-0138-1006
13	Screw	JFZ26P025FZB	58	E-Ring	2-1712-5060-16
14	Lever	CZN6706	59	Arm (F) Assy	1-0036-6014
15	Lever	1-0036-1010	60	Spring	1-0036-4012
16	Spring	1-0036-4005	61	Spring	1-0036-4006
17	Cam Assy	X-0038-1041	62	Arm Assy	X-0036-1010-3
18	Arm Assy	X-0036-2015	63	Spring	1-0036-4017
19	Arm	1-0038-2014	64	Motor Assy(M1)	X-0036-6075
20	Spring	1-0036-4003	65	Motor	1-0036-7057
21	Spring	1-0036-4015	66	Washer	1-0012-5017
22	Collar	1-0036-3018	67	Pulley	1-0036-3042
23	Gear	1-0036-2010	68	E-Ring	2-1711-6032-96
24	Ratchet	1-0036-2007	69	Washer	2-1821-0032-D1
25	Spring	1-0038-4023	70	Screw	2-1331-7030-C2
26	Washer	1-0036-5024	71	Bracket Assy	X-0138-2006-5
27	Gear	1-0036-2014	72	Spring	1-0036-4018
28	Base Assy	X-0036-1009	73	Screw	2-1362-0030-F2
29	Screw	2-1382-0030-C2	74	Collar	1-0038-3015
30	Gear	1-0036-2004-0	75	Arm	1-0038-2034
31	Gear	1-0036-2003	76	Screw	2-1331-7040-C2
32	Washer	2-1812-0030-D2	77	Mute PCB	1-0138-7002
33	Gear	1-0036-2001	78	Mute Switch (S2)	1-0138-7087
34	Arm	1-0036-2009	79	Screw	2-1331-7060-C2
35	Washer	1-0036-5023	80	Power Switch(S1)	1-0036-7034
36	Spindle Assy	X-0036-6080	81	Tube	1-0058-5016
37	Cam Assy	X-0136-2001	82	Screw	2-1032-0025-C2
38	Spring	1-0138-4001	83	Screw	2-1012-0030-F2
39	Washer	1-0136-5001	84	Pulley	1-0058-2021-5
40	Screw	2-1032-0070-C2	85	Chassis Assy	X-0036-1001
41	Guide	1-0038-2018	86	Lever	1-0036-1016
42	Link	1-0138-2004	87	Screw	1-0036-5005
43	E-Ring	2-1711-5040-16	88	Arm (A) Assy	X-0036-1025
44	Arm (R) Assy	1-0036-6013	89	Arm	1-0036-2008
45	Spring	1-0036-4013	90	Arm	1-0036-1026



**KEH-1010QR , 1050QR , 1050QRS**

Mark No.	Description	Part No.	Mark No.	Description	Part No.
91	Gear	1-0036-2005-0	106	Connector Assy (11P) (CN202)	CZD2974
92	Belt	1-0036-5018	107	Slide Switch (S3)	1-0036-7007
93	Bracket	CZN6705	108	SW PCB	1-0036-7001
94	Screw	BMZ26P040FMC	109	Wire	1-0036-7004
95	Spring	1-0036-4001	110	Wire	1-0036-7003
96	Lever	1-0036-1004	111	Wire	1-0036-7002
97	Lever	1-0036-1005	112	Washer	1-0036-5028
98	Arm	1-0036-1013	113	Flywheel Assy	1-0036-6010-1
99	Spring	1-0036-4002	114	Flywheel Assy	1-0036-6010-0
100	Lever	1-0036-1023	115	Belt	1-0036-5004
101	Roller	1-0038-3012			
102	Spring	1-0036-4008			
103	Bracket Assy	X-0036-6077			
104	Screw	2-1332-0040-C1			
105	Link	1-0138-5001			







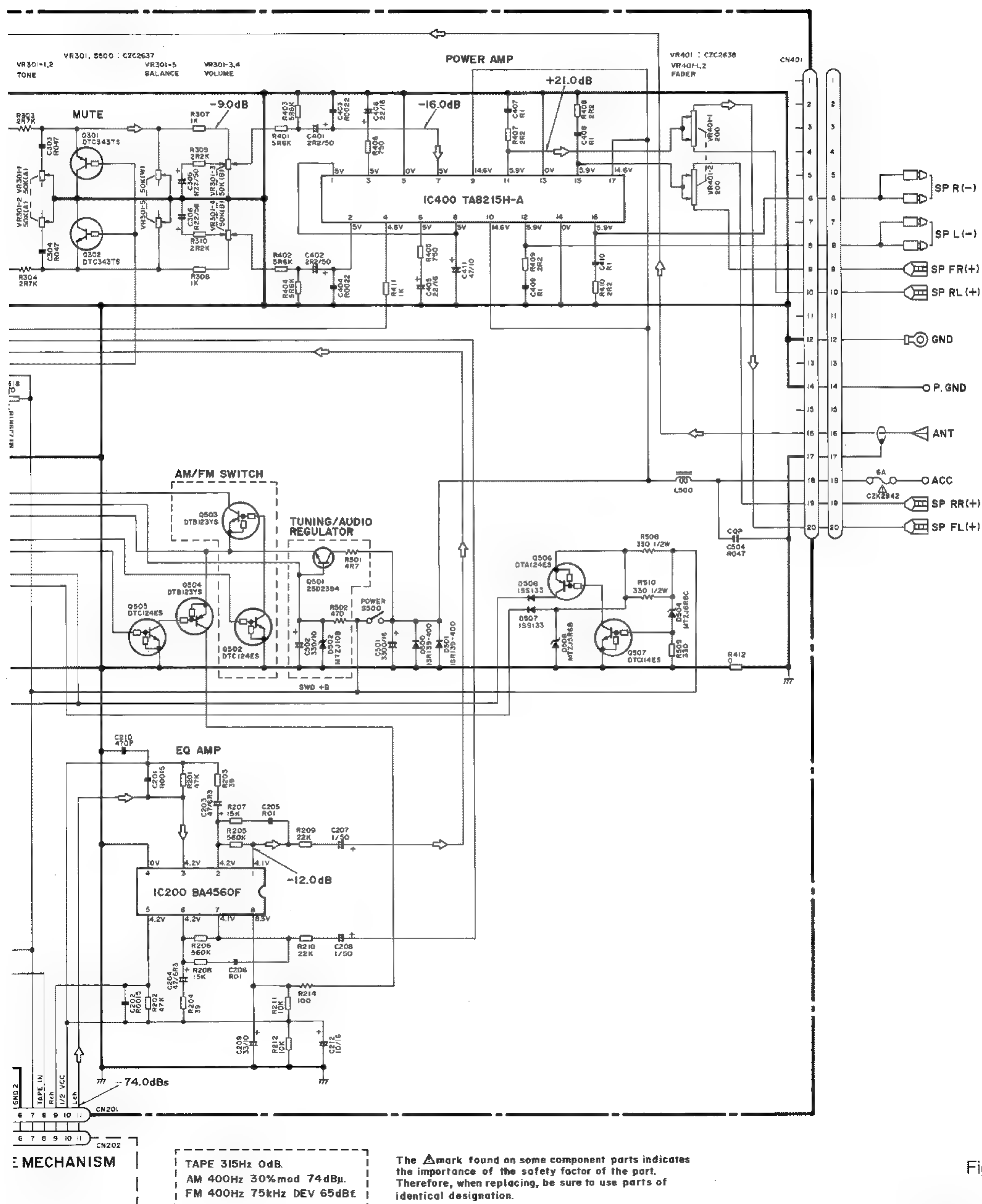


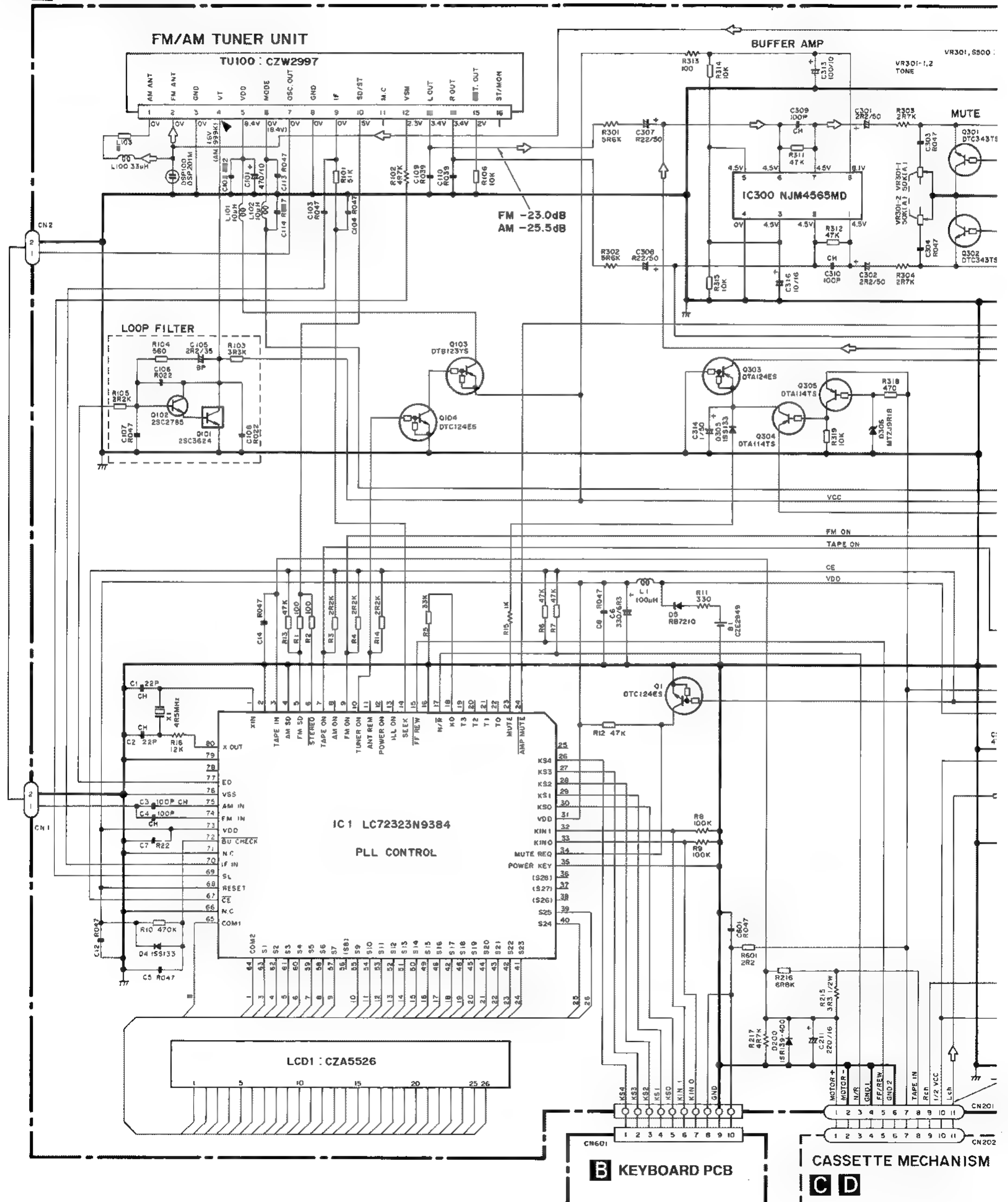
Fig.4



# KEH-1010QR, 1050QR, 1050QRS

## ● KEH-1050QR/X1M/ES

### A TUNER AMP UNIT



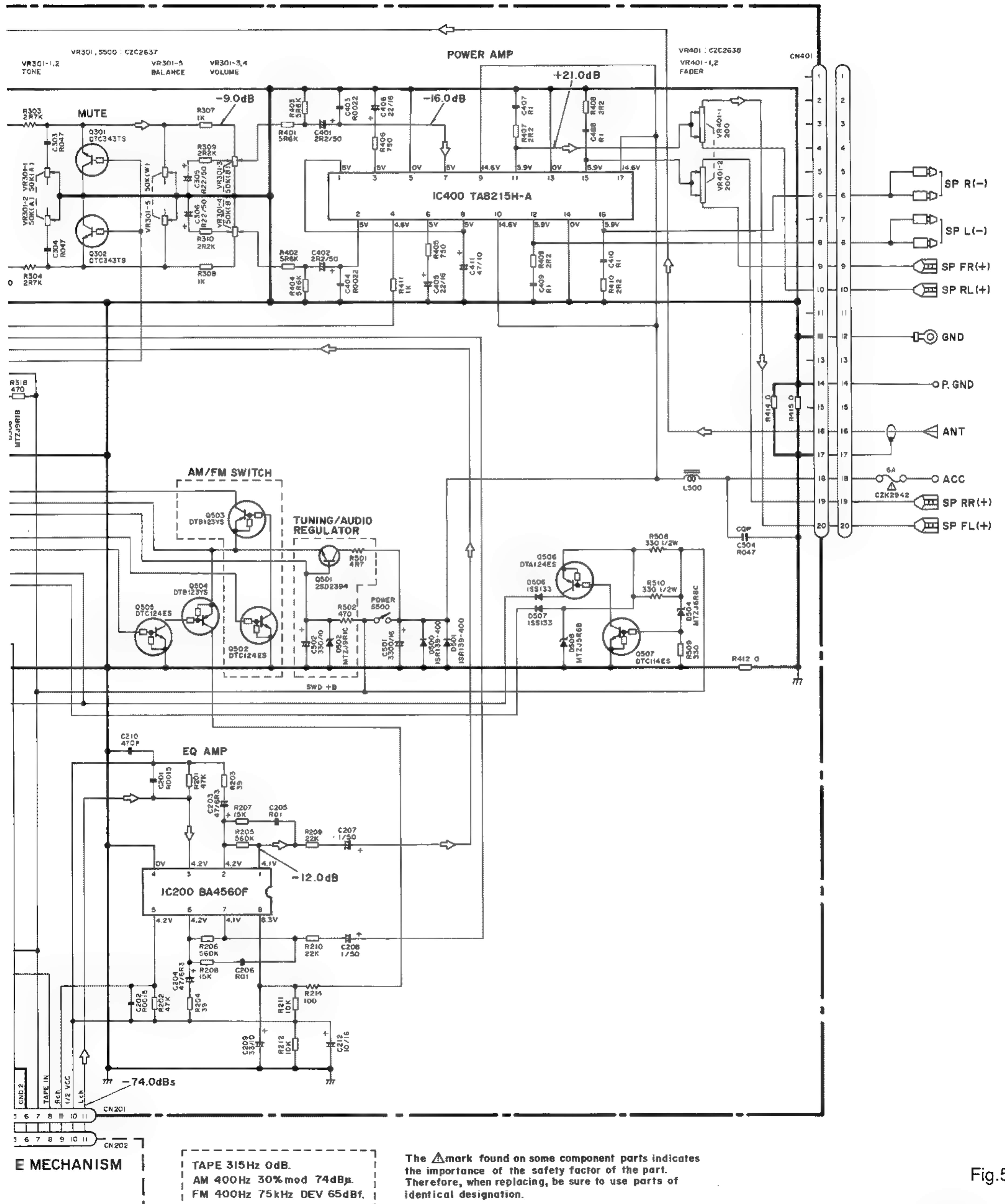
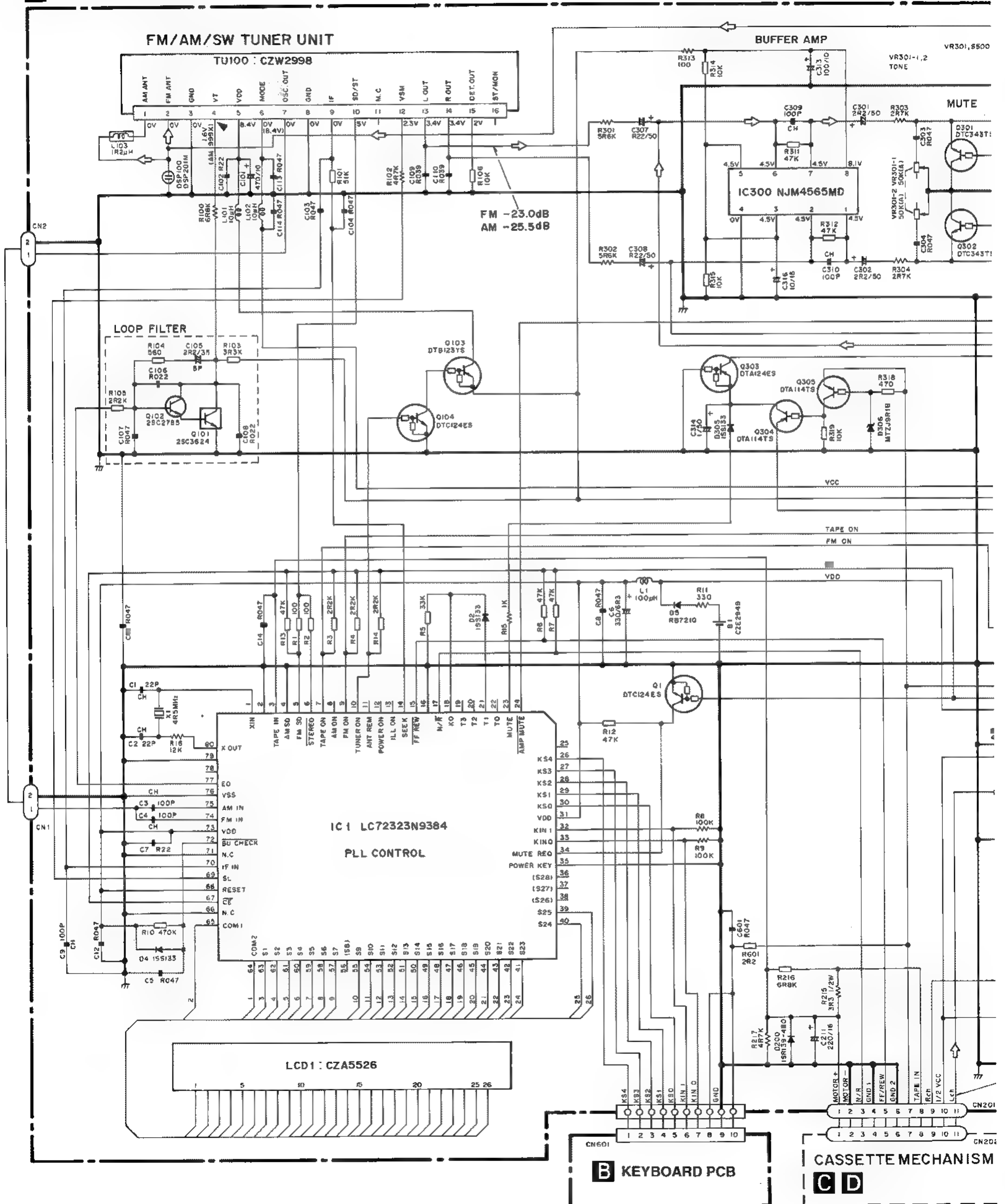


Fig.5



● KEH-1050QRS/X1M/ES

**A** TUNER AMP UNIT



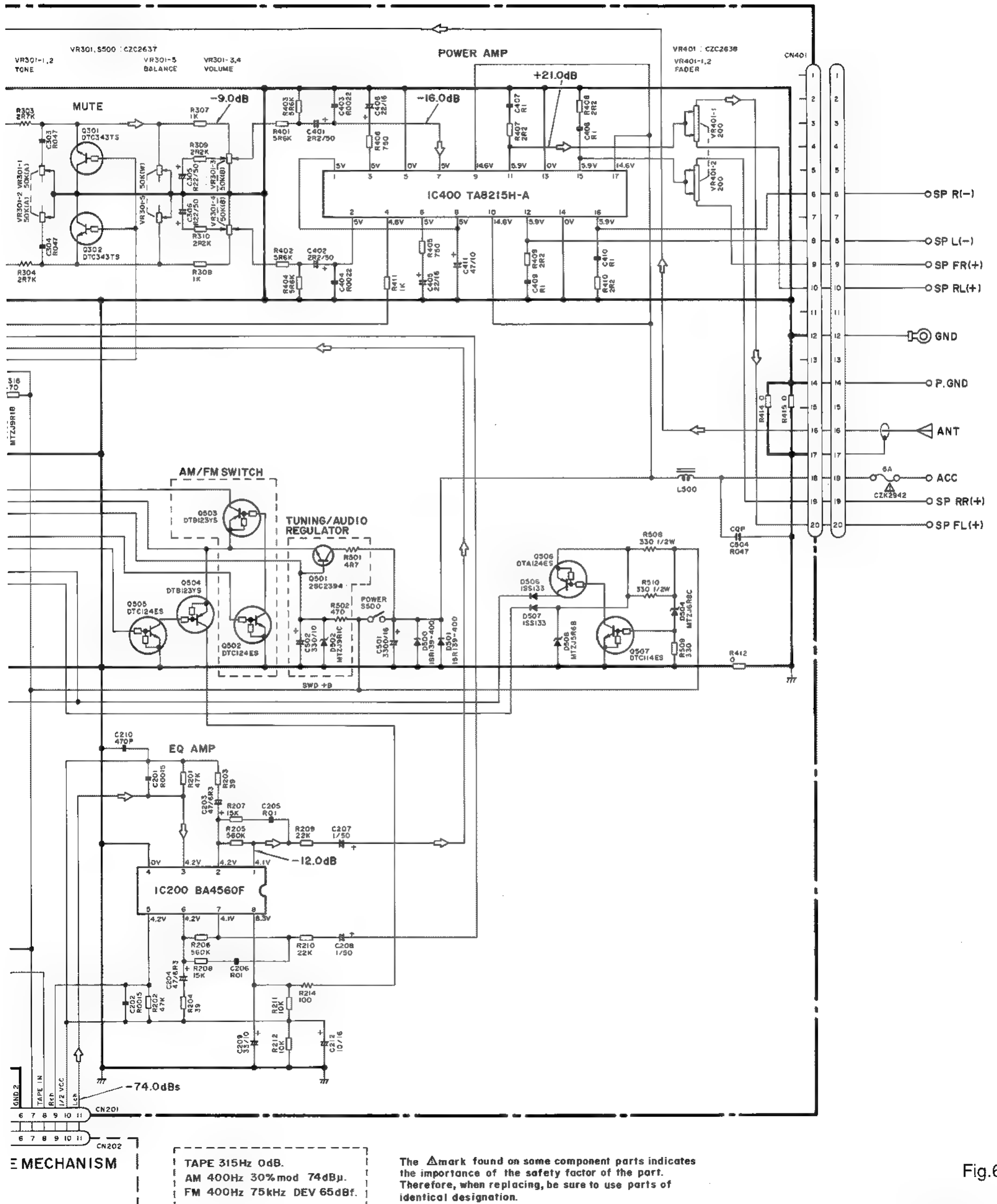
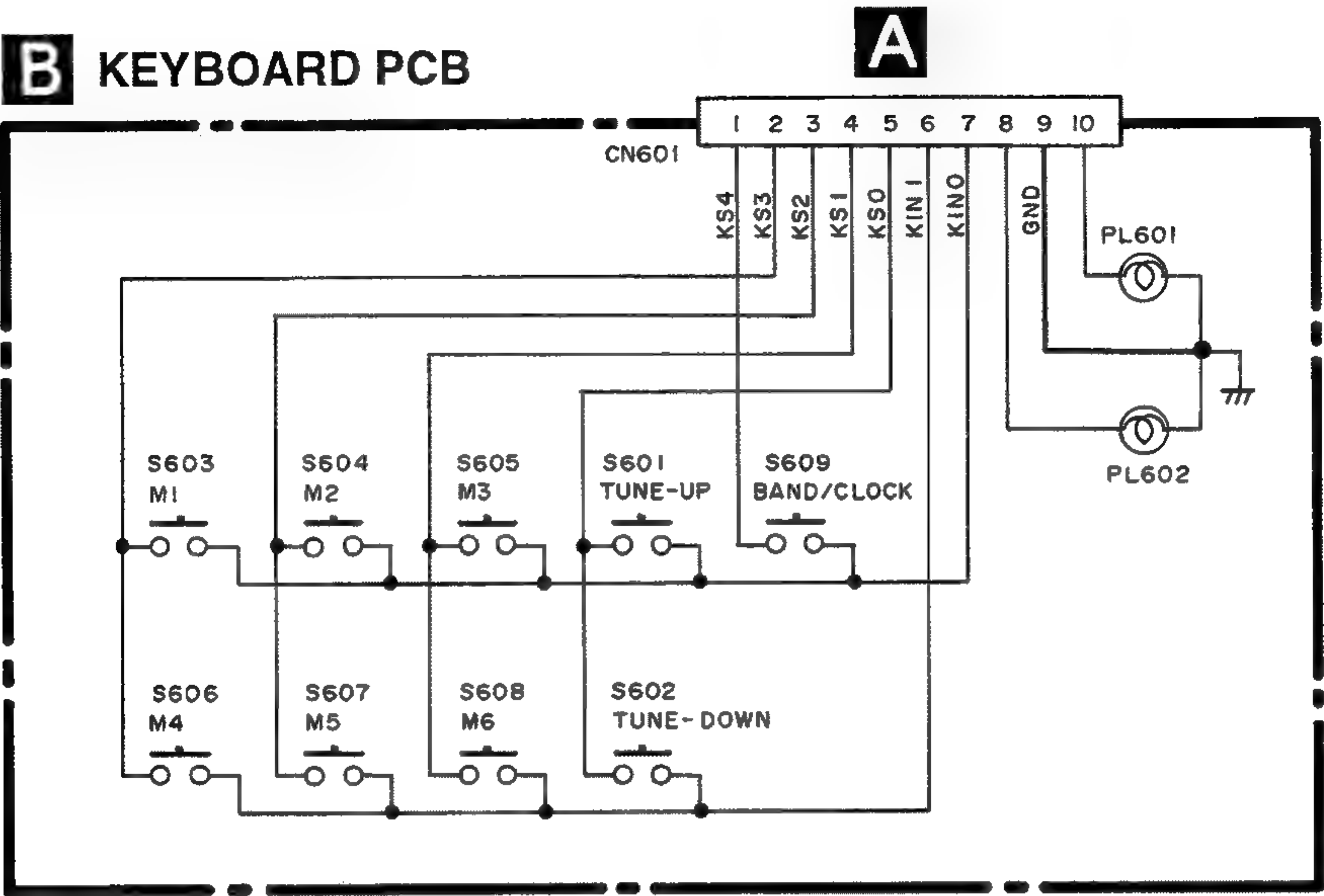


Fig.6



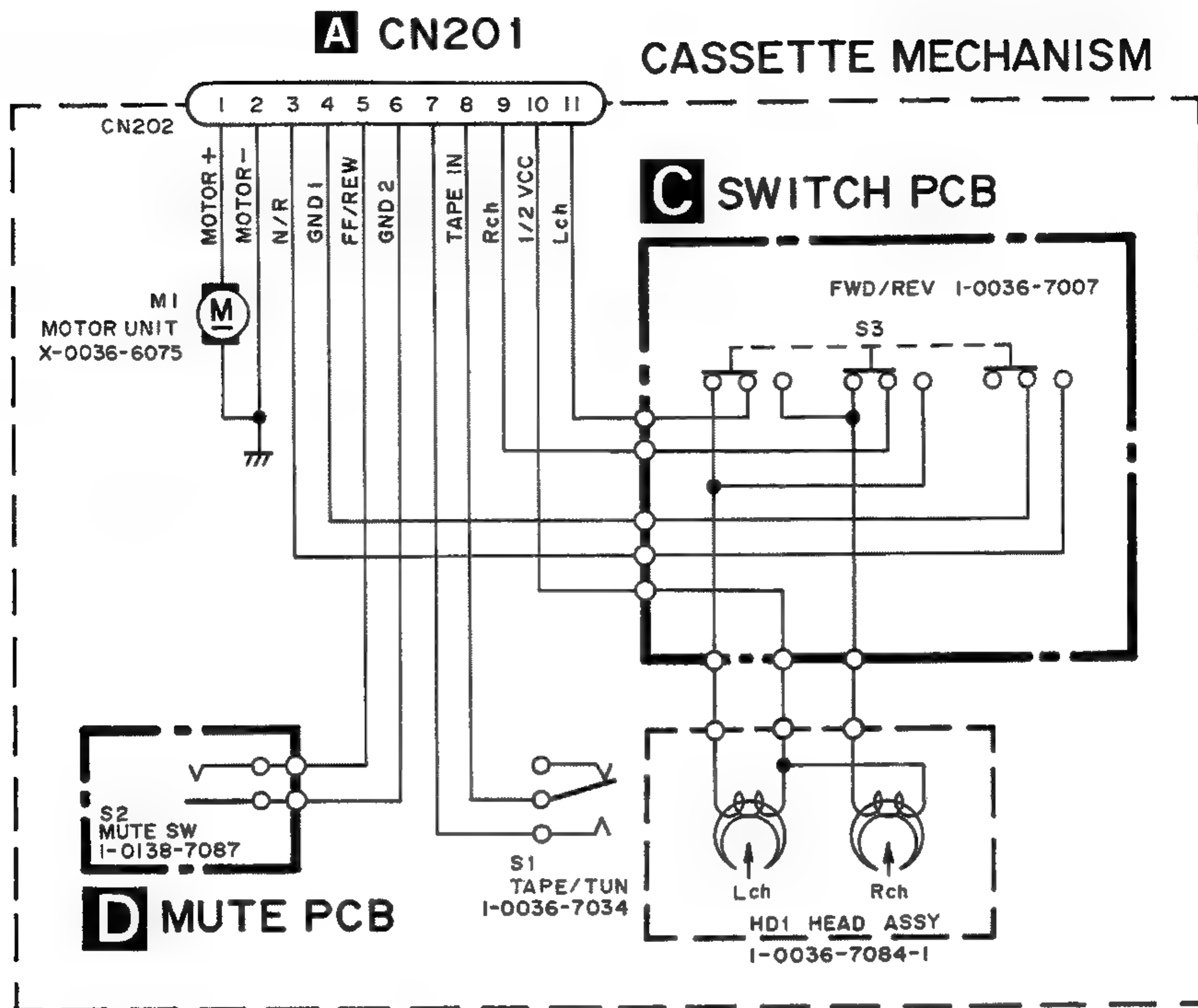
3.2 KEYBOARD PCB



	PL601,602
KEH-1010QR	CZE2948
KEH-1050QR	CZE2947
KEH-1050QRS	CZE2947

Fig.7

## 3.3 CASSETTE MECHANISM MODULE



## SWITCHES:

S1 : TAPE/TUN SWITCH.....TAPE/TUN  
 S2 : MUTE SWITCH .....ON-OFF  
 S3 : FWD/REV SWITCH.....FWD-REV

The underlined indicates the switch position.

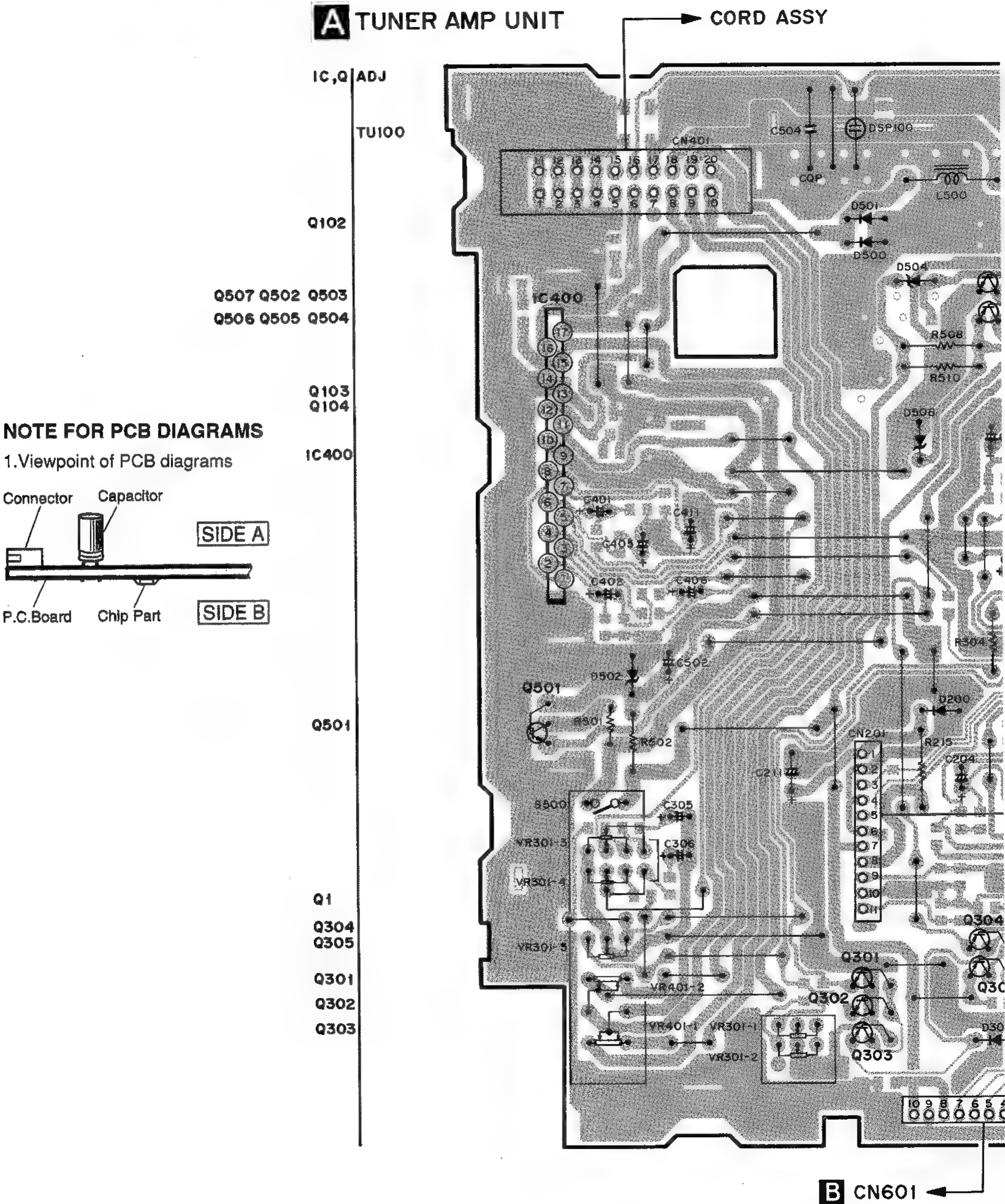
Fig.8



4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

● KEH-1010QR/X1M/EE





SIDE A

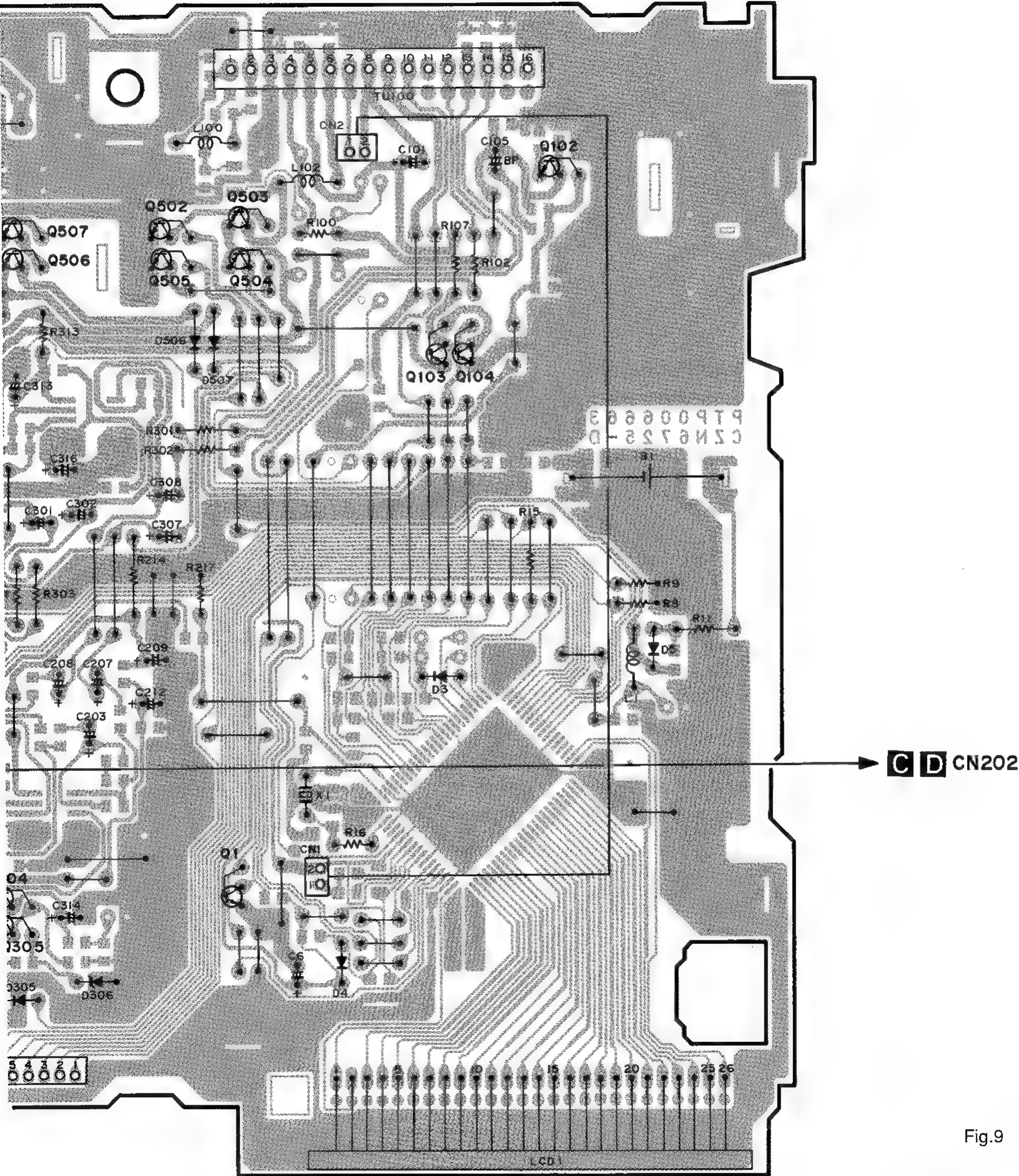
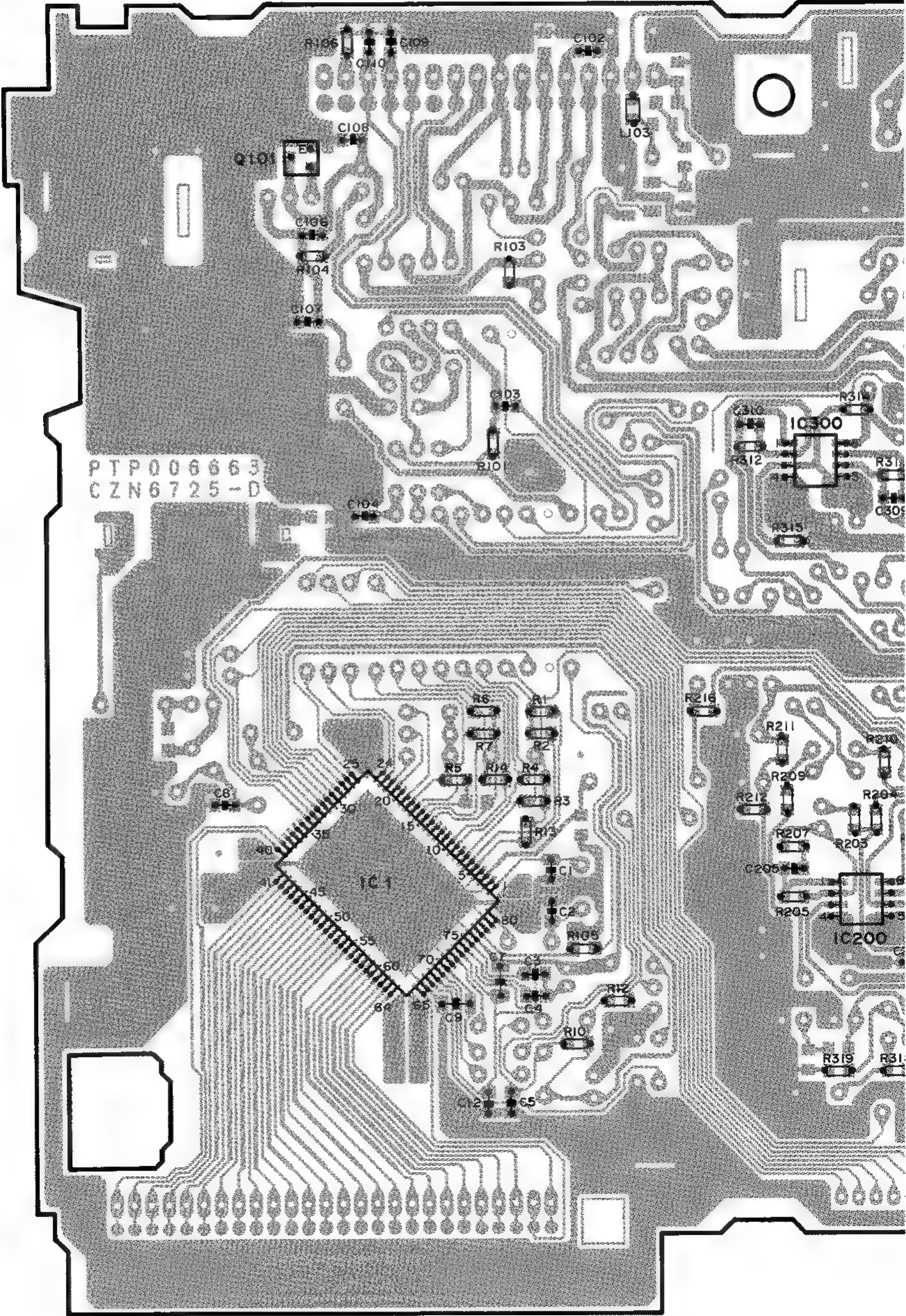


Fig.9



**A** TUNER AMP UNIT









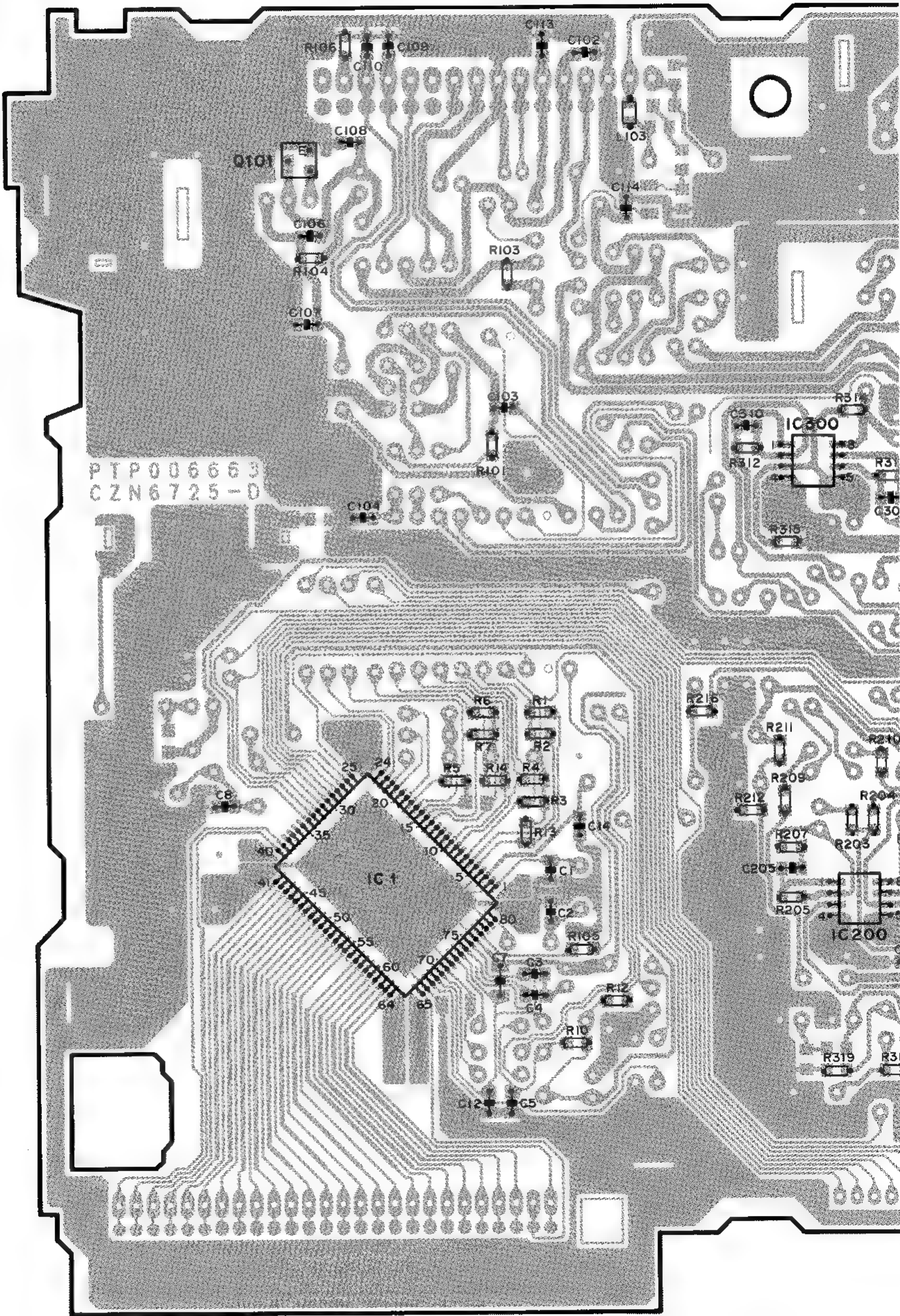








**A** TUNER AMP UNIT





SIDE B

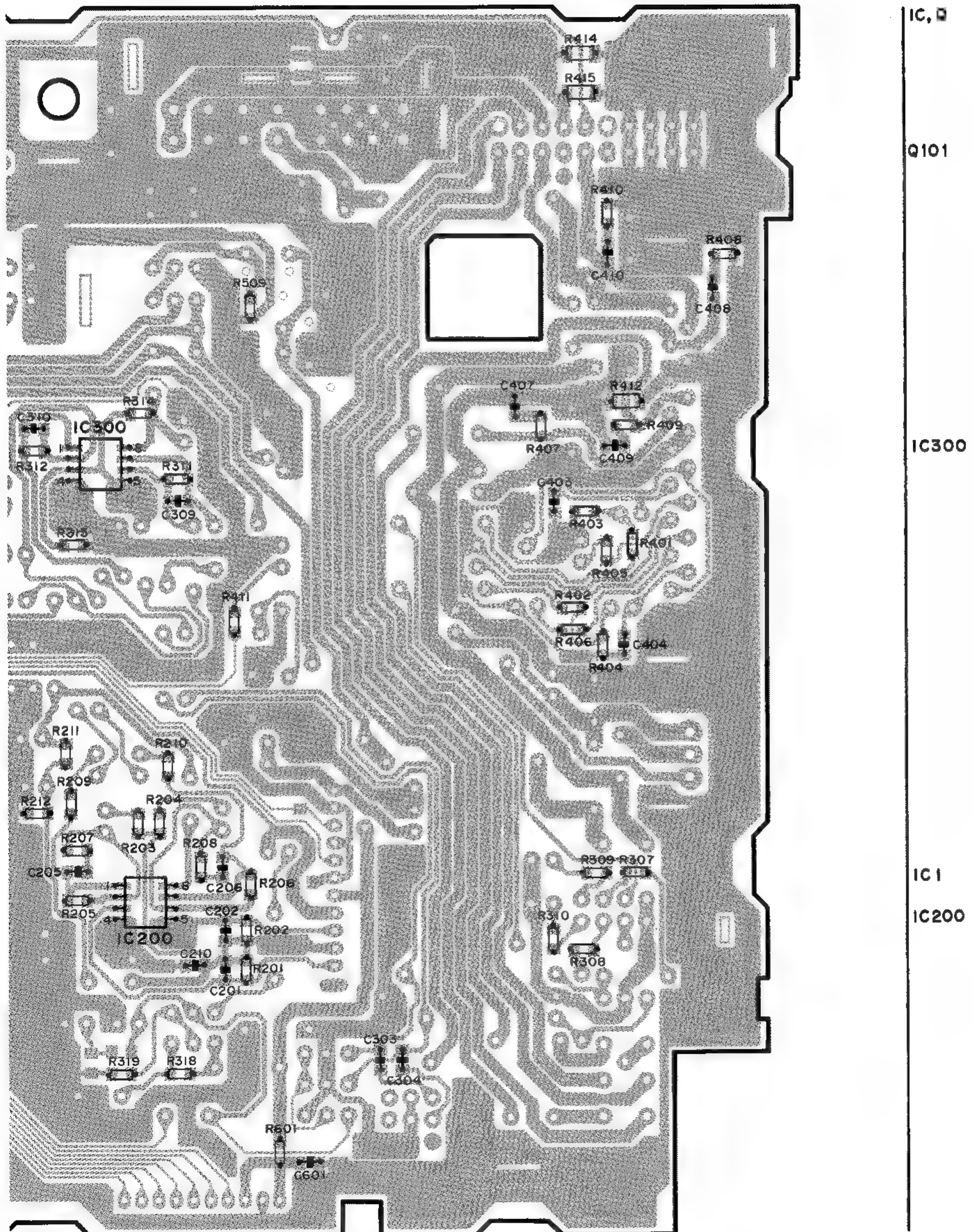


Fig.12



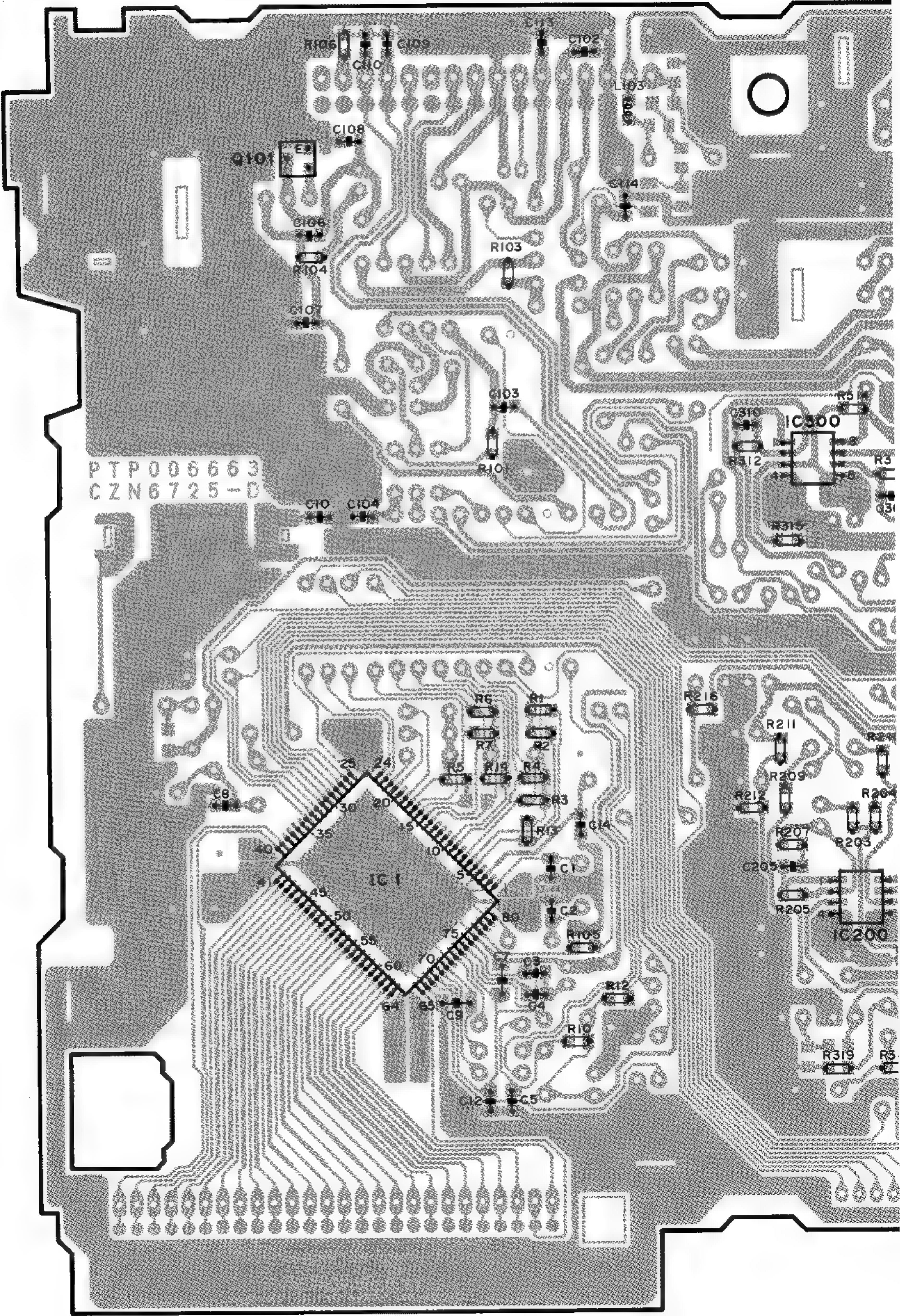








**A** TUNER AMP UNIT









4.2 KEYBOARD UNIT PCB

**B** KEYBOARD PCB

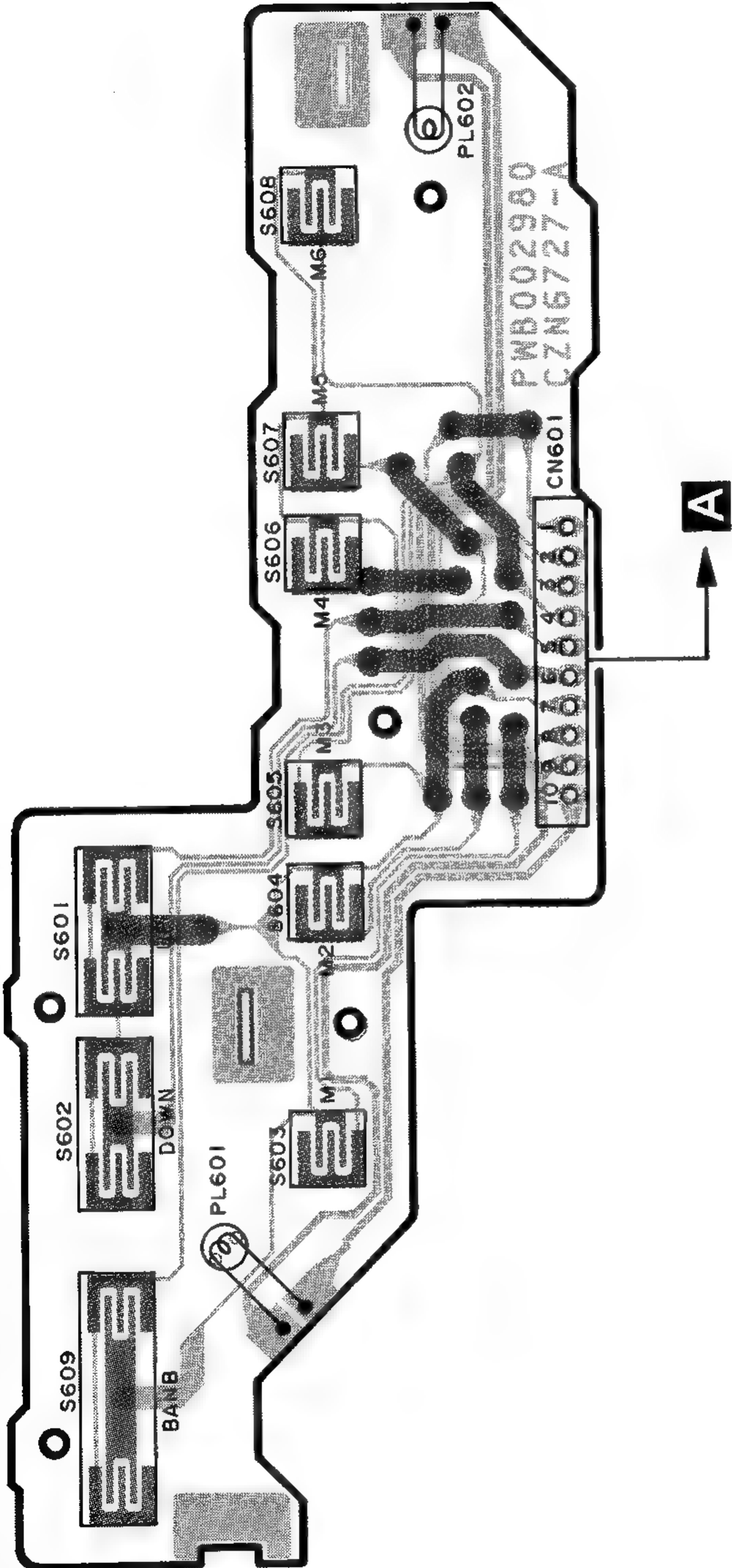


Fig.15



4.3 CASSETTE MECHANISM MODULE

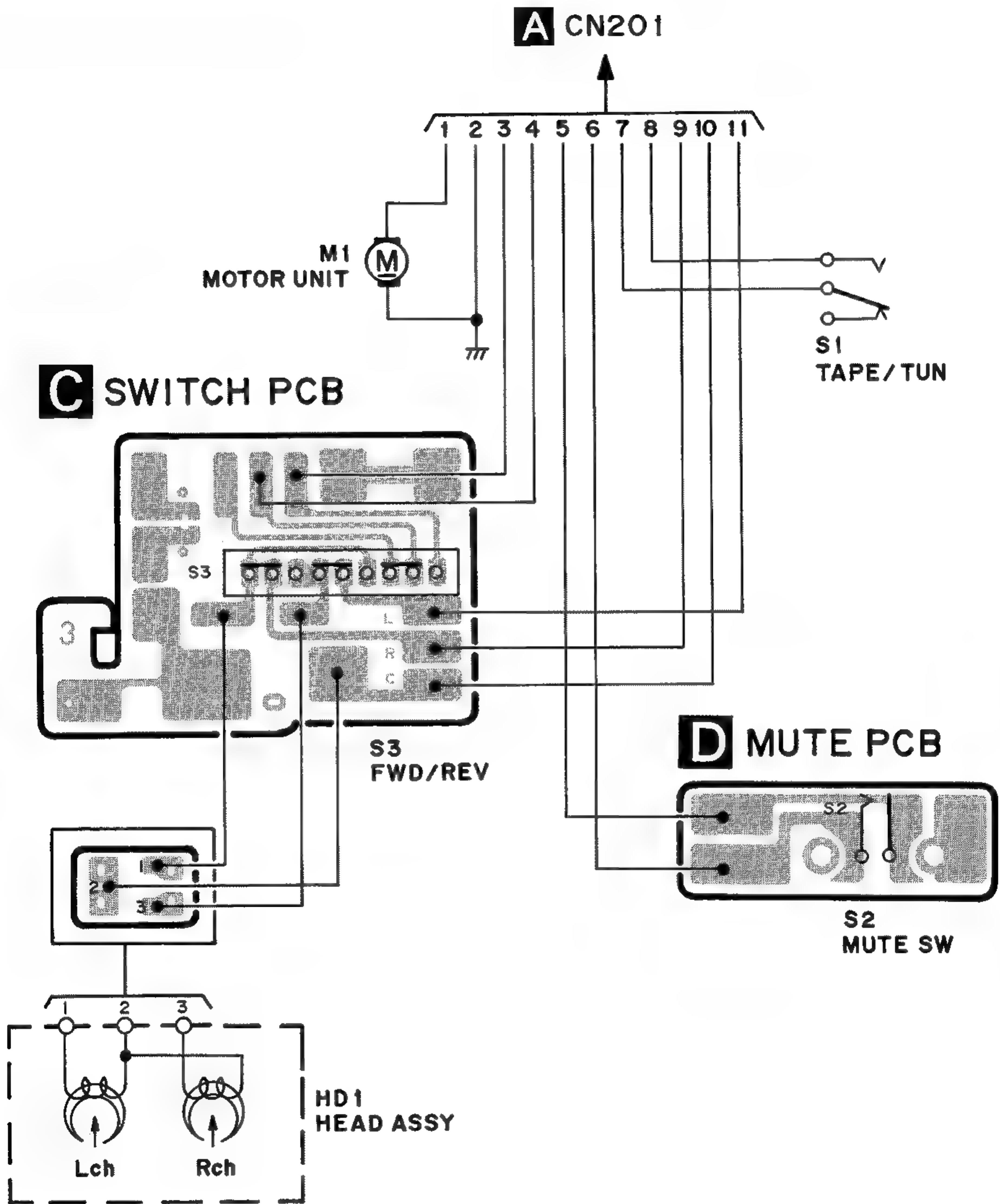


Fig.16



## 5. ELECTRICAL PARTS LIST

## NOTE :

● Parts whose parts numbers are omitted are subject to being not supplied.

● The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS.....,CCS.....,CSZS.....

====Circuit Symbol and No.===Part Name			Part No.	====Circuit Symbol and No.===Part Name			Part No.
Unit Number : CZW5502(KEH-1010QR/X1M/EE)				L 103	Choke Coil		See Contrast table
: CZW2999(KEH-1050QR/X1M/ES)				L 500	Choke Coil		CZT2919
: CZW5505(KEH-1050QRS/X1M/ES)				B 1	Battery		CZE2949
Unit Name : Tuner Amp Unit				DSP 100	Capacitor with Discharge Gap		DSP-201M
				LCD 1	LCD		CZA5526
				TU 100	Tuner Unit		See Contrast table
				X 1	Crystal Resonator 4.5MHz		CZS2914
				VR 301	Volume		CZC2637
				VR 401	Volume		CZC2638
				RESISTORS			
IC 1	IC	LC72323N9384		R 1 2			RS1/10S101J
IC 200	IC	BA4560F		R 3 4 14 105 309 310			RS1/10S222J
IC 300	IC	NJM4565MD		R 5			RS1/10S333J
IC 400	IC	TA8215H-A		R 6 7 12 13 201 202 311 312			RS1/10S473J
Q 1	Transistor	DTC124ES		R 8 9			RD1/4PU104J
Q 101	Transistor	2SC3624(L17,L18)		R 10			RS1/10S474J
Q 102	Transistor	2SC2785(EFH)		R 11			RD1/4PU331J
Q 103	Transistor	DTB123YS		R 15			RD1/4PU102J
Q 104	Transistor	DTC124ES		R 16 301 302			RD1/4PU562J
Q 301	Transistor	DTC343TS		R 100			See Contrast table
Q 302	Transistor	DTC343TS		R 101			RS1/10S513J
Q 303	Transistor	DTA124ES		R 102 217			RD1/4PU472J
Q 304	Transistor	DTA114TS		R 103			RS1/10S332J
Q 305	Transistor	DTA114TS		R 104			RS1/10S561J
Q 501	Transistor	2SD2394(DEF)		R 106 211 212 314 315 319			RS1/10S103J
Q 502	Transistor	DTC124ES		R 107			See Contrast table
Q 503	Transistor	DTB123YS		R 203 204			RS1/10S390J
Q 504	Transistor	DTB123YS		R 205 206			RS1/10S564J
Q 505	Transistor	DTC124ES		R 207 208			RS1/10S153J
Q 506	Transistor	DTA124ES		R 209 210			RS1/10S223J
Q 507	Transistor	DTC114ES		R 214 313			RD1/4PU101J
D 2	Diode	See Contrast table		R 215			RS1/2PMF3R3J
D 3	Diode	See Contrast table		R 216			RS1/10S682J
D 4	Diode	1SS133		R 303 304			RD1/4PU272J
D 5	Diode	MA729		R 307 308 411			RS1/10S102J
D 200	Diode	1SR139-400		R 318			RS1/10S471J
D 305	Diode	1SS133		R 401 402 403 404			RS1/10S562J
D 306	Diode	MTZJ9R1(B)		R 405 406			RS1/10S751J
D 500	Diode	1SR139-400		R 407 408 409 410 601			RS1/10S2R2J
D 500	Diode	1SR139-400		R 412			RS1/8S0R0J
D 502	Diode	See Contrast table		R 414 415			See Contrast table
D 502	Diode	See Contrast table		R 501			RD1/4PU4R7J
D 504	Diode	MTZJ6R8(C)		R 502			RD1/4PU471J
D 506	Diode	1SS133		R 508 510			RS1/2PMF331J
D 507	Diode	1SS133		R 509			RS1/10S331J
D 508	Diode	MTZJ5R6(B)					
L 1	Inductor	LAU101K					
L 100	Ferri-Inductor	See Contrast table					
L 101	Ferri-Inductor	See Contrast table					
L 102	Ferri-Inductor	See Contrast table					



# KEH-1010QR , 1050QR , 1050QRS

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
CAPACITORS			
C 1 2	CCSQCH220J50	C 403 404	CKSQYB222K50
C 3 4 309 310	CCSQCH101J50	C 405 406	CEHAS220M16
C 5 8 12 103 104 107 303 304 601	CKSQYB473K50	C 407 408 409 410	CKSQYB104K50
C 6	CEAL331M6R3	C 411	CEHAS470M10
C 7	CKSYB224K50	C 501	CZC2641
C 9	See Contrast table	C 502	CZC2634
C 10	See Contrast table	C 504	CQPA473J2A
C 14 113 114	See Contrast table	Unit Numbe : CZW5503(KEH-1010QR/X1M/EE)	
C 101	CZC2639	: CZW3300(KEH-1050QR/X1M/ES,1050QRS/X1M/ES)	
C 102	CKSQYB224K50	<b>B</b> Unit Name : Keyboard PCB	
C 105	CEANP2R2M35	PL 601 Lamp 14V 65mA	See Contrast table
C 106 108	CKSQYB223K50	PL 602 Lamp 14V 65mA	See Contrast table
C 109 110	CKSQYB393K50		
C 201 202	CKSQYB152K50	Unit Numbe :	
C 203 204	CEAL470M6R3	<b>C</b> Unit Name : Switch PCB	
C 205 206	CKSQYB103K50	S 3 Slide Switch(FWD/REV)	1-0036-7007
C 207 208 314	CEAL1R0M50	Unit Numbe :	
C 209	CEAL330M10	<b>D</b> Unit Name : Mute PCB	
C 210	CKSQYB471K50	S 2 Switch(Mute)	1-0138-7087
C 211	CEJA221M16	Miscellaneous Parts List	
C 212 316	CEAL100M16	S 1 Switch(TAPE/TUN)	1-0036-7034
C 301 302	CEAL2R2M50	M 1 Motor Assy	X-0036-6075
C 305 306 307 308	CEALR22M50	HD 1 Head	1-0036-7084-1
C 313	CEAL101M10		
C 401 402	CEHAS2R2M50		

## CONTRAST TABLE of TUNER AMP UNIT

KEH-1010QR/X1M/EE,KEH-1050QR/X1M/ES and KEH-1050QRS/X1M/ES have the same construction except for the following:

Symbol and Description		Part No.		
		KEH-1010QR/X1M/EE	KEH-1050QR/X1M/ES	KEH-1050QRS/X1M/ES
D2	Diode	1SS133	Not used	Not used
D3	Diode	Not used	Not used	1SS133
D502	Diode	MTZJ100(B)	MTZJ9R1(C)	MTZJ9R1(C)
L100	Ferri-Inductor	LAU330K	LAU330K	Not used
L101	Ferri-Inductor	Not used	LAU100K	LAU100K
L102	Ferri-Inductor	LAU100K	LAU100K	Not used
L103	Choke Coil	RS1/10S0R0J	RS1/10S0R0J	CZT2920
TU100	Tuner Unit	CZW2996	CZW2997	CZW2998
R100		RD1/4PU682J	Not used	RD1/4PU682J
R107		RD1-4PU6R8J	Not used	Not used
R414 415		Not used	RS1/8S0R0J	RS1/8S0R0J
C9		CCSCH101J50	Not used	CCSCH101J50
C10		Not used	Not used	CKSQYB473K50
C14 113 114		Not used	CKSQYB473K50	CKSQYB473K50

## CONTRAST TABLE of KEYBOARD PCB

KEH-1010QR/X1M/EE,KEH-1050QR/X1M/ES and KEH-1050QRS/X1M/ES have the same construction except for the following:

Symbol and Description		Part No.		
		KEH-1010QR/X1M/EE	KEH-1050QR/X1M/ES	KEH-1050QRS/X1M/ES
PL601 602	Lamp 14V65mA	CZE2948	CZE2947	CZE2947



6. ADJUSTMENT

● Connection Diagram

NOTICE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.  
Z: Output impedance of SSG

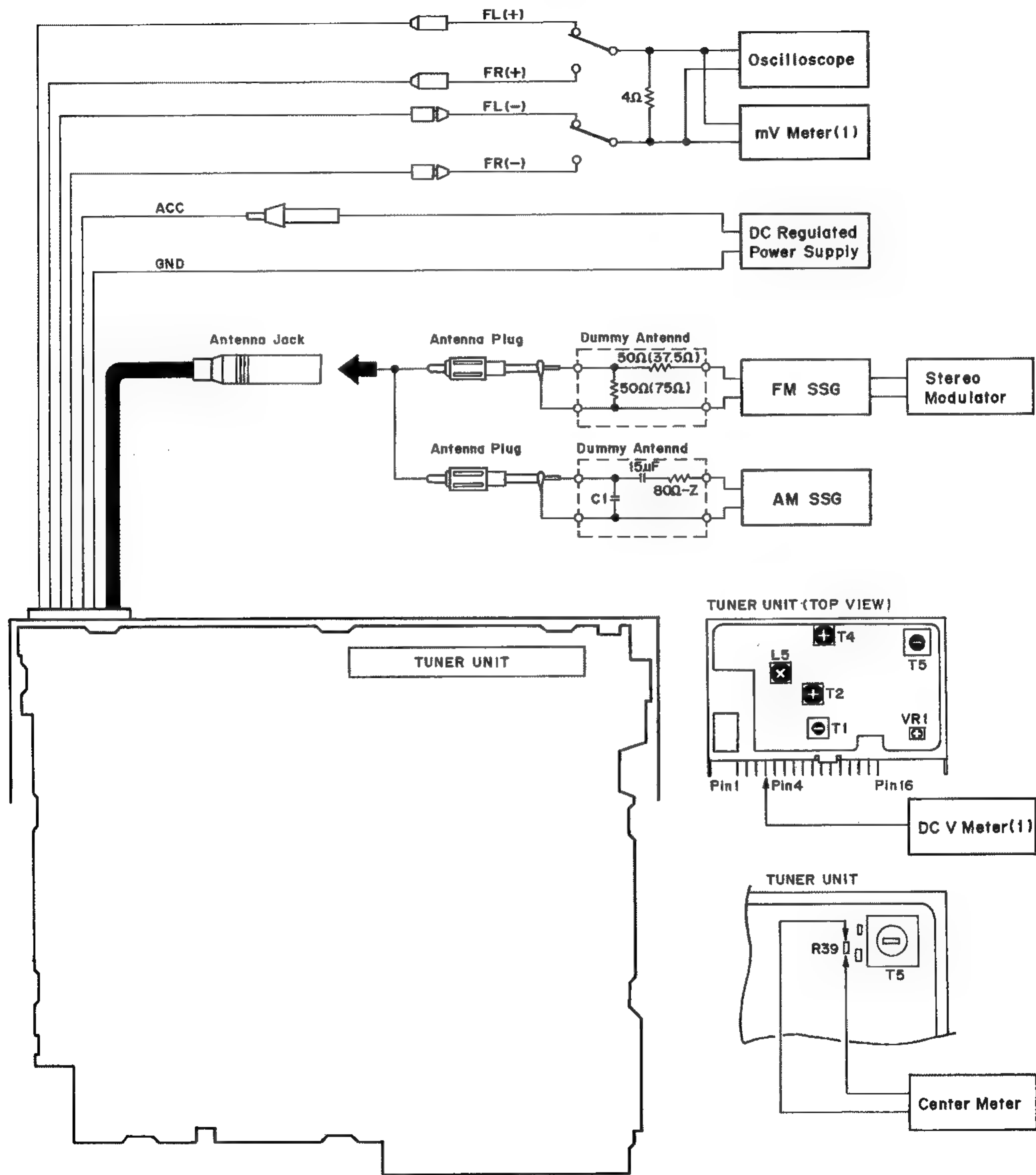


Fig.17



**AM ADJUSTMENT(ES Model tuning steps at 9kHz)**

	No.	AM SSG(400Hz,30%)		Displayed Frequency(kHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(kHz)	Level(dBμV)			
IF	1	999	20	999	T3,T4	mV Meter(1) : Maximum

**FM ADJUSTMENT**

Modulation M : MONO MOD., 400Hz 100%(75kHz Dev.)

S : STEREO MOD., 1kHz L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE : Before proceeding to further adjustments after switching power ON, let the tuner run for allow the circuits to stabilize.

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
TUN Volt	1	-----	-----	65.0 (EE Model) 87.5 (ES Model)	T1	DC V Meter(1) : 1.0V ± 0.1V
IF	1	98.1	65	98.1	T5	Center Meter : 0
ANT,RF	1	89.9	5-15	89.9	L4,L5	mV Meter(1) : Maximum
IFT	1	98.1	5-15	98.1	T2	mV Meter(1) : Maximum
Max. Sep.	1	98.1	65	98.1	VR1	mV Meter(1) : Separation Maximum

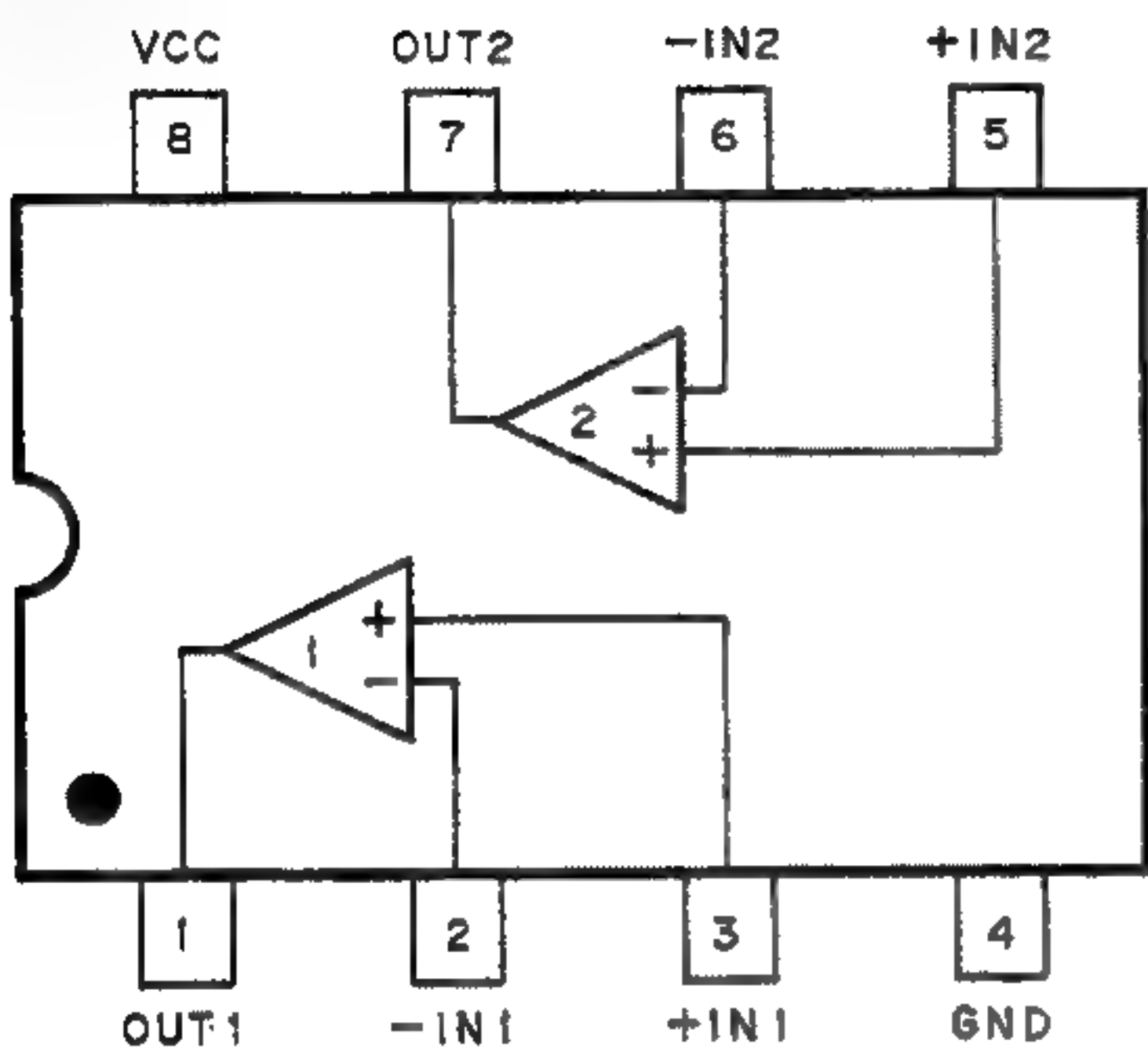


7. GENERAL INFORMATION

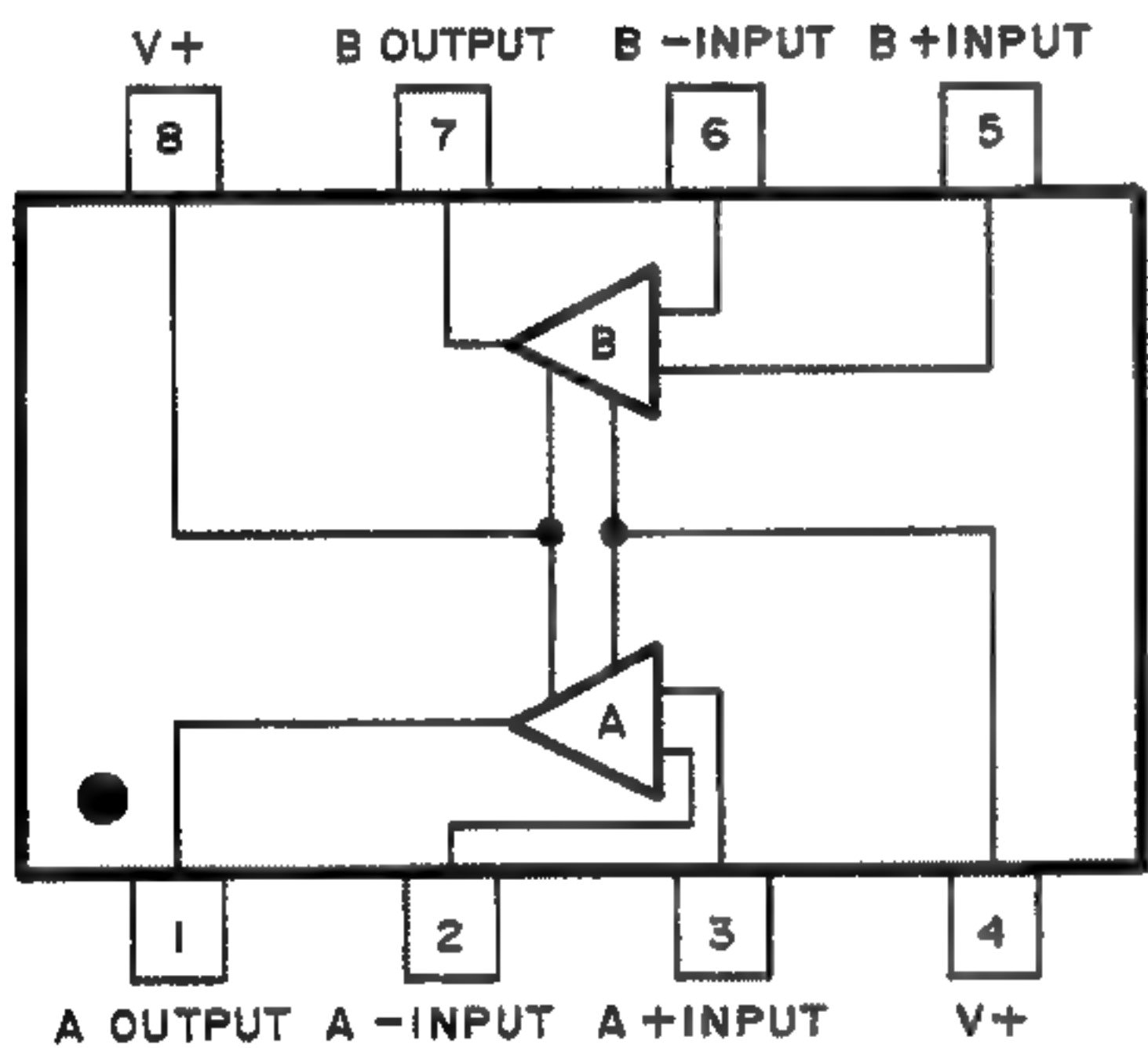
7.1 PARTS

7.1.1 IC

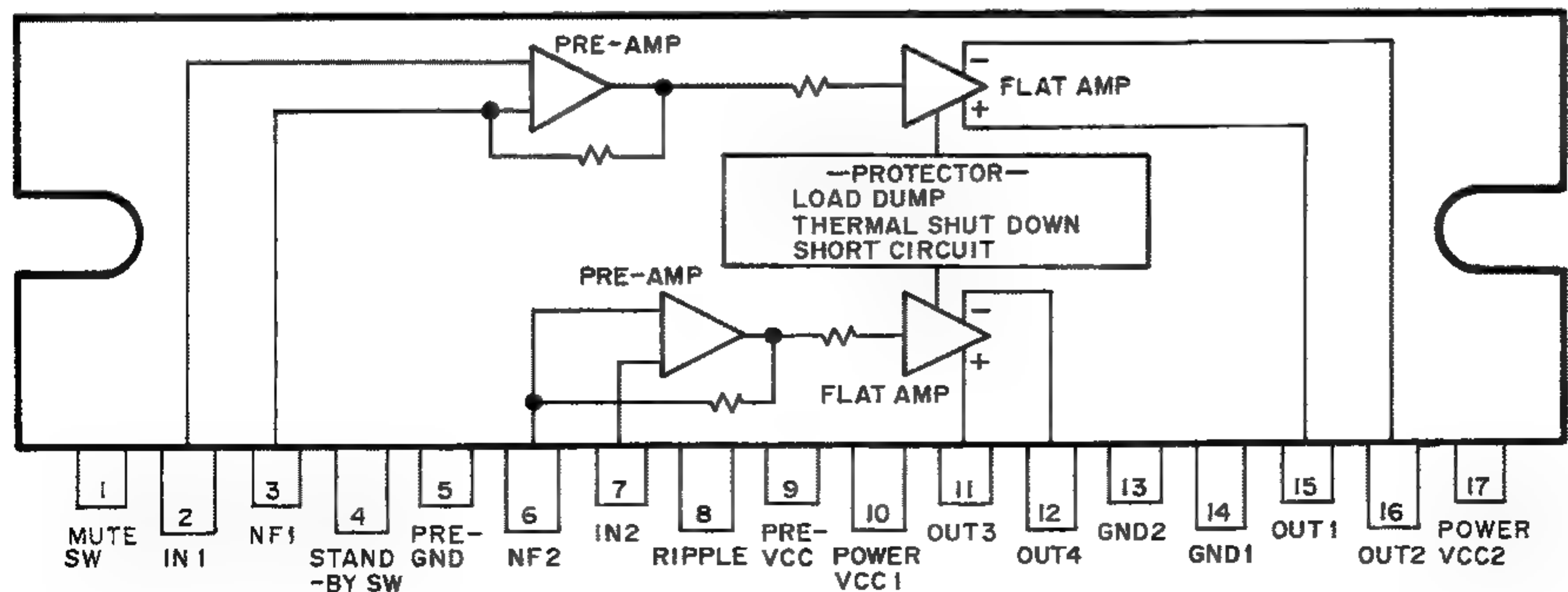
BA4560F



NJM4565MD



TA8215H-A





## ● Pin Functions (LC72323N9384)

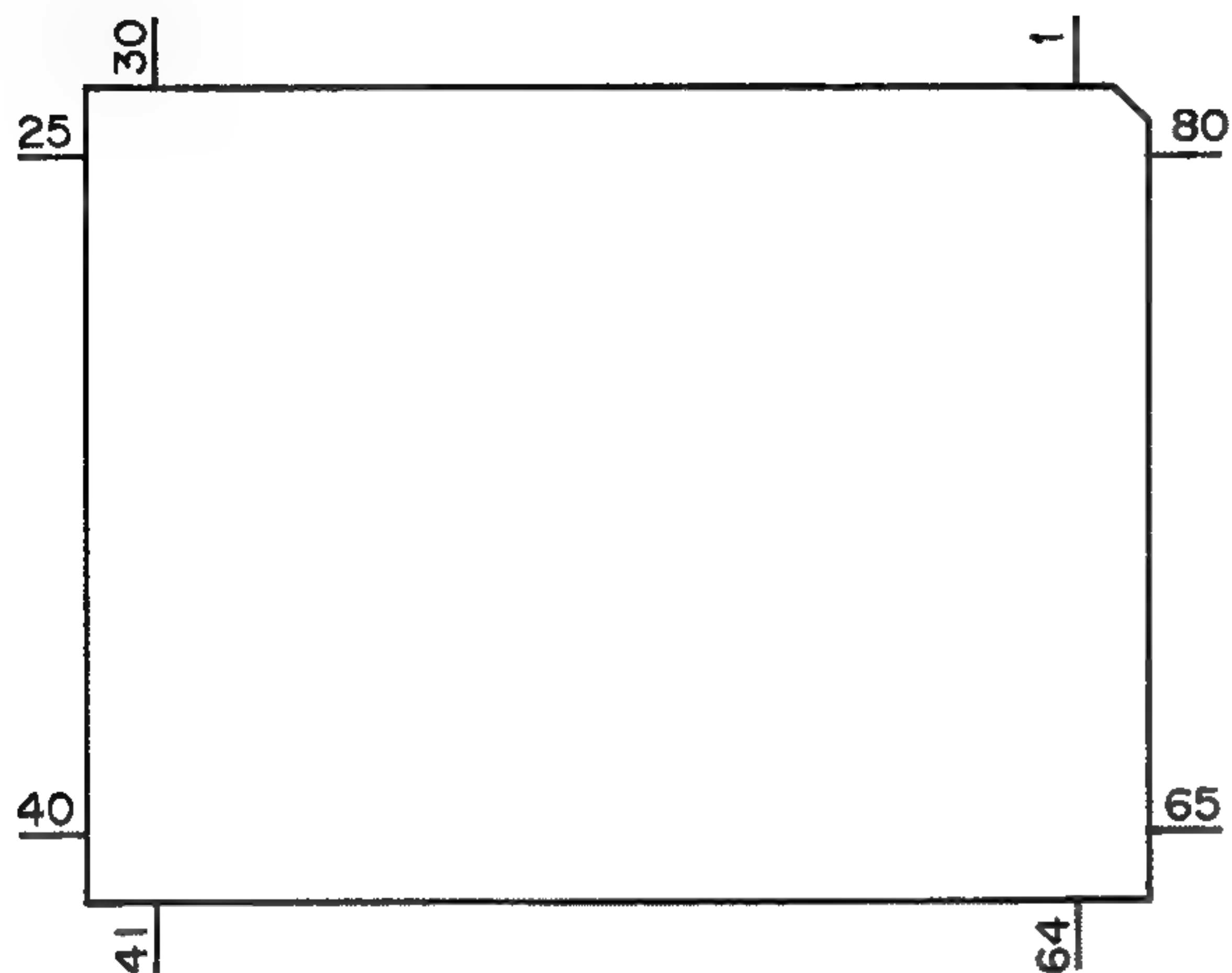
Pin No.	Pin Name	I/O	Function and Operation
1	XIN	I	Crystal oscillator connection pin
2	-	I	(GND)
3	TAPE-IN	I	TAPE pack-in detection input
4	N.C	I	(GND)
5	FM-SD	I	FM SD signal input
6	STEREO	I	FM stereo input
7	TAPE ON	O	EQ AMP power control output
8	AMON	O	Not used
9	FMON	O	FM band select output
10	TUNER-ON	O	TUNER power control output
11	ANT-REM	O	Not used
12	POWER-ON	O	Not used
13	ILL-ON	O	Not used
14	SEEK	O	Seek output
15	FF-REW	I	FF/REW detection input
16	N.C	I	(GND)
17	N/R(DIR)	I	Cassette mechanism tape direction input
18	K0	I	Diode matrix input
19-22	T3-T0	O	Diode matrix output
23	MUTE	O	Audio mute output
24	AMP-MUTE	O	Power amplifier mute output
25	SW-SW	O	Not used
26-30	KS4-KS0	O	Key strobe output
31	VDD		Power supply
32-33	KIN1-0	I	Key sense input
34	MUTE-REQ	I	POWER OFF input
35	N.C	I	(GND)
36-38	S28-S26	O	Not used
39-55	S25-S9	O	LCD segment output
56	S8	O	Not used
57-63	S7-S1	O	LCD segment output
64,65	COM2-1	O	LCD common output
66	N.C	I	(GND)
67	CE	I	Chip enable input
68	RESET	I	(VDD)
69	AM-SL	I	Signal level input
70	IFIN	I	AM/FM IF signal input
71	N.C	I	(GND)
72	BU-CHECK	I	Back-up voltage detection
73	VDD		Power supply
74	FMIN	I	FM local oscillator signal input
75	AMIN	I	AM local oscillator signal input
76	VSS		GND
77	E0	O	PLL error output
78	-	O	(open)
79	-	I	(GND)
80	XOUT	O	Crystal oscillator connection pin

Format	Meaning
C	C MOS
N	N channel open drain



IC's marked by \* are MOS type.  
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

\* LC72323N9384



### Tuner Unit (CZW2996, CZW2997, CZW2998)

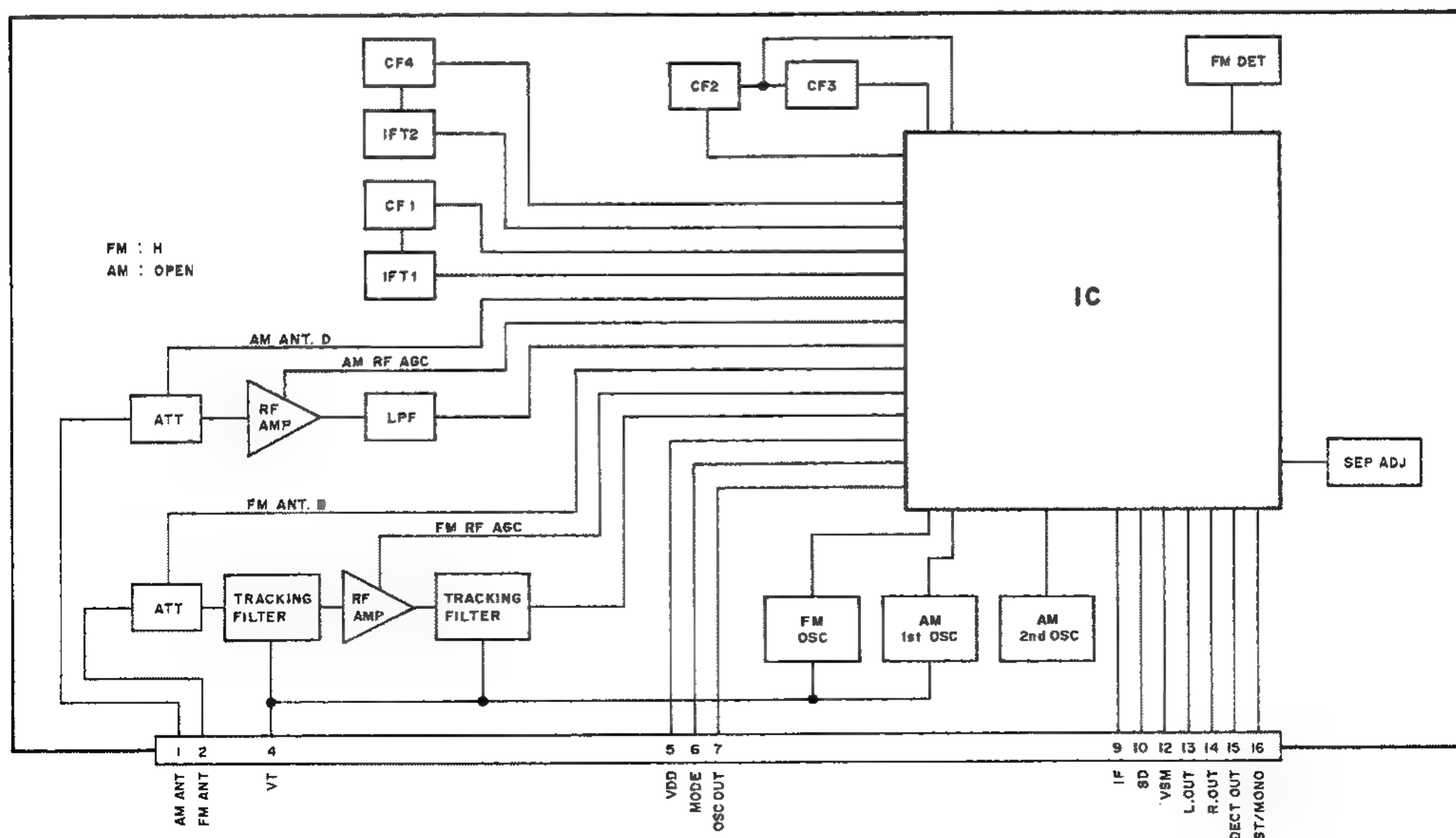


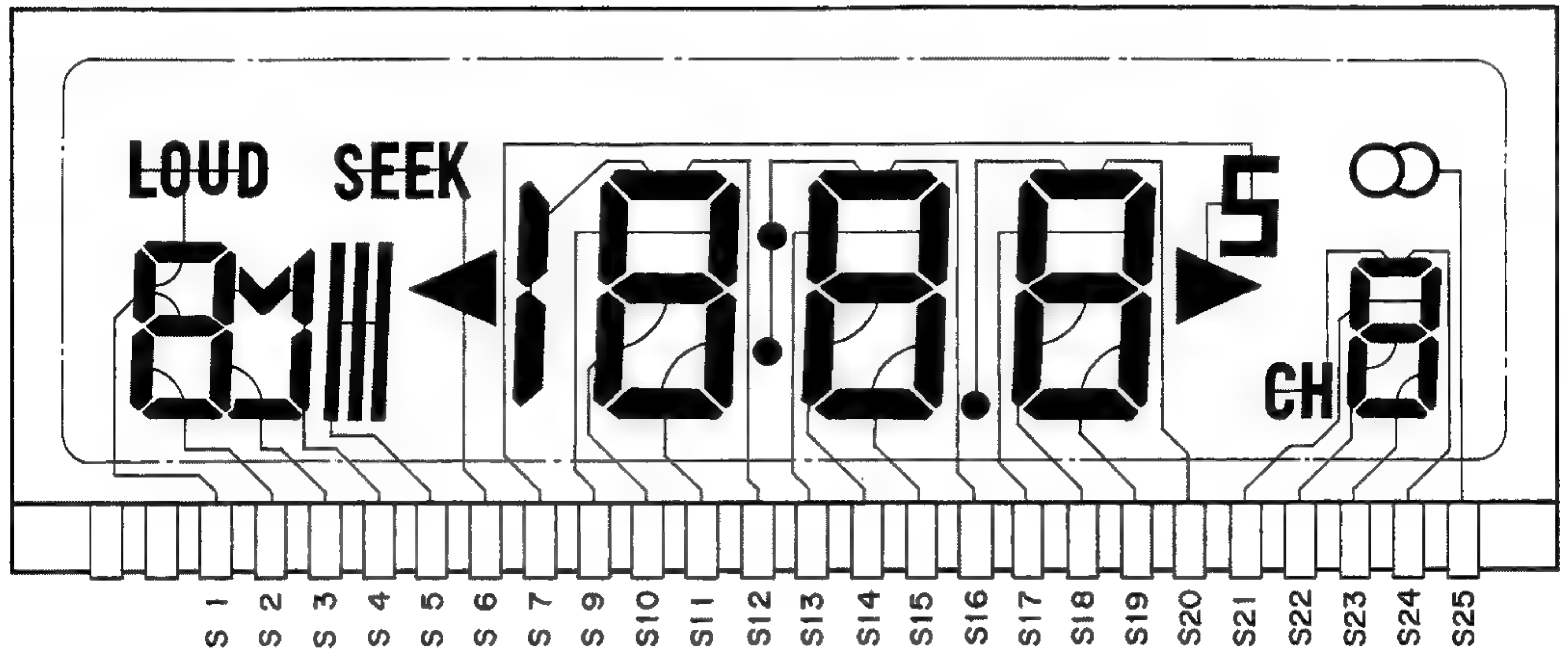
Fig.18



## 7.1.2 DISPLAY

● CZA5526

## SEGMENT



## COMMON

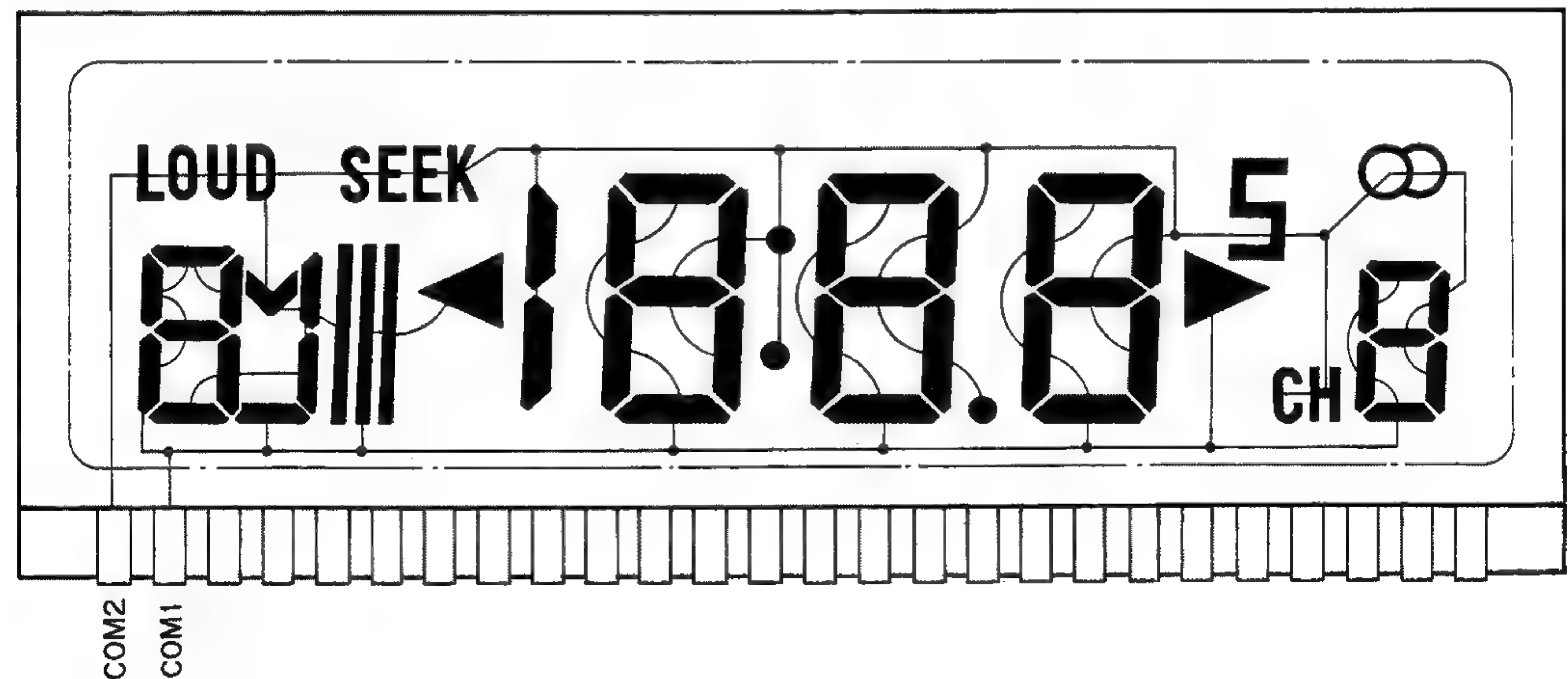



Fig.19



## 7.2 DIAGMNOSIS

### 7.2.1 DISASSEMBLY

#### ● Removing the Case

1. Insert and turn  screwdriver to remove the case.
2. Remove the three screws A.
3. Raise the case to remove.

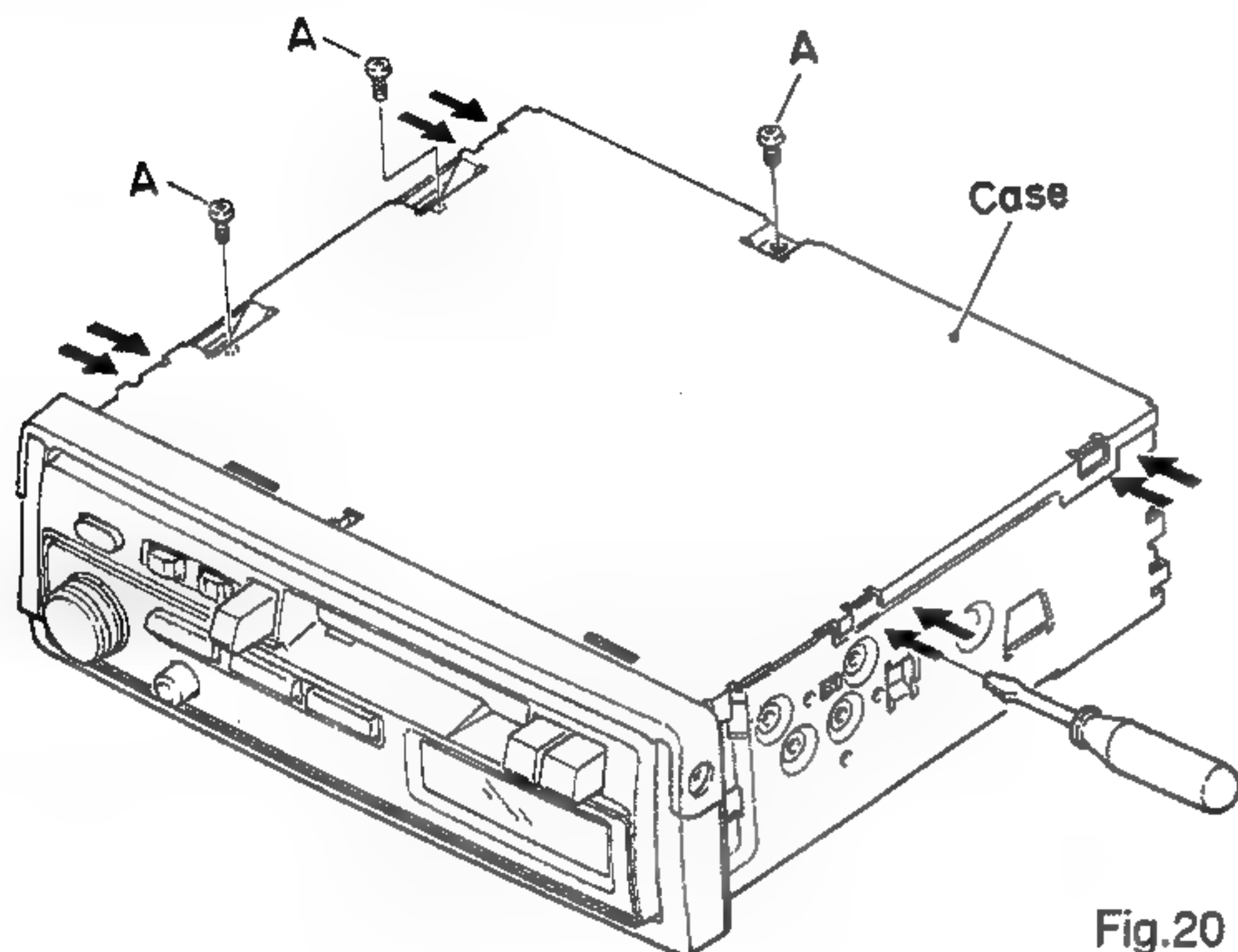


Fig.20

#### ● Removing the Handle

1. Remove the two screws, and them remove the handle.

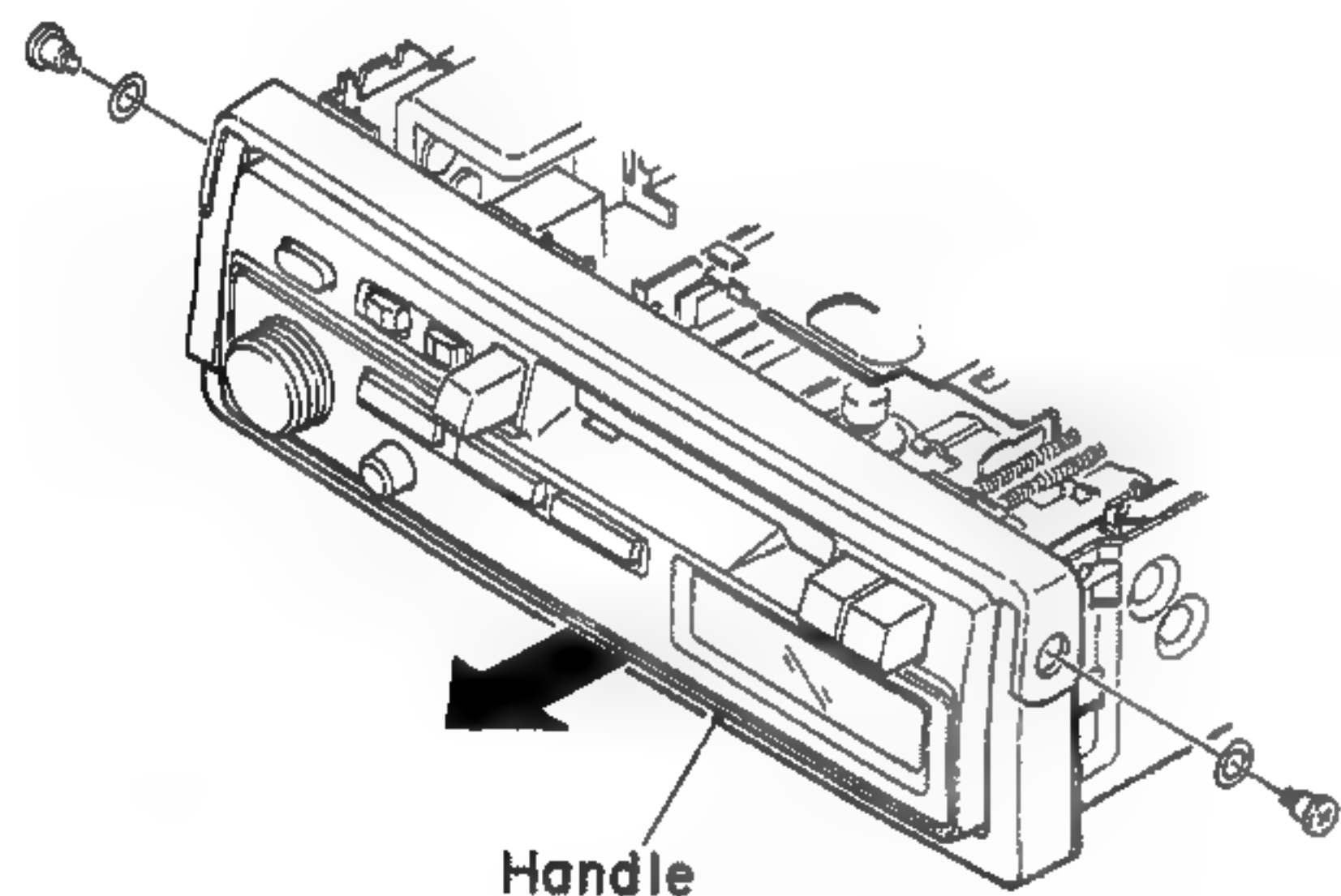


Fig.21

#### ● Removing the Grille Assy

1. Remove the two knobs.
2. Press the tabs at four locations indicated by arrows, and then pull out the grille assy.

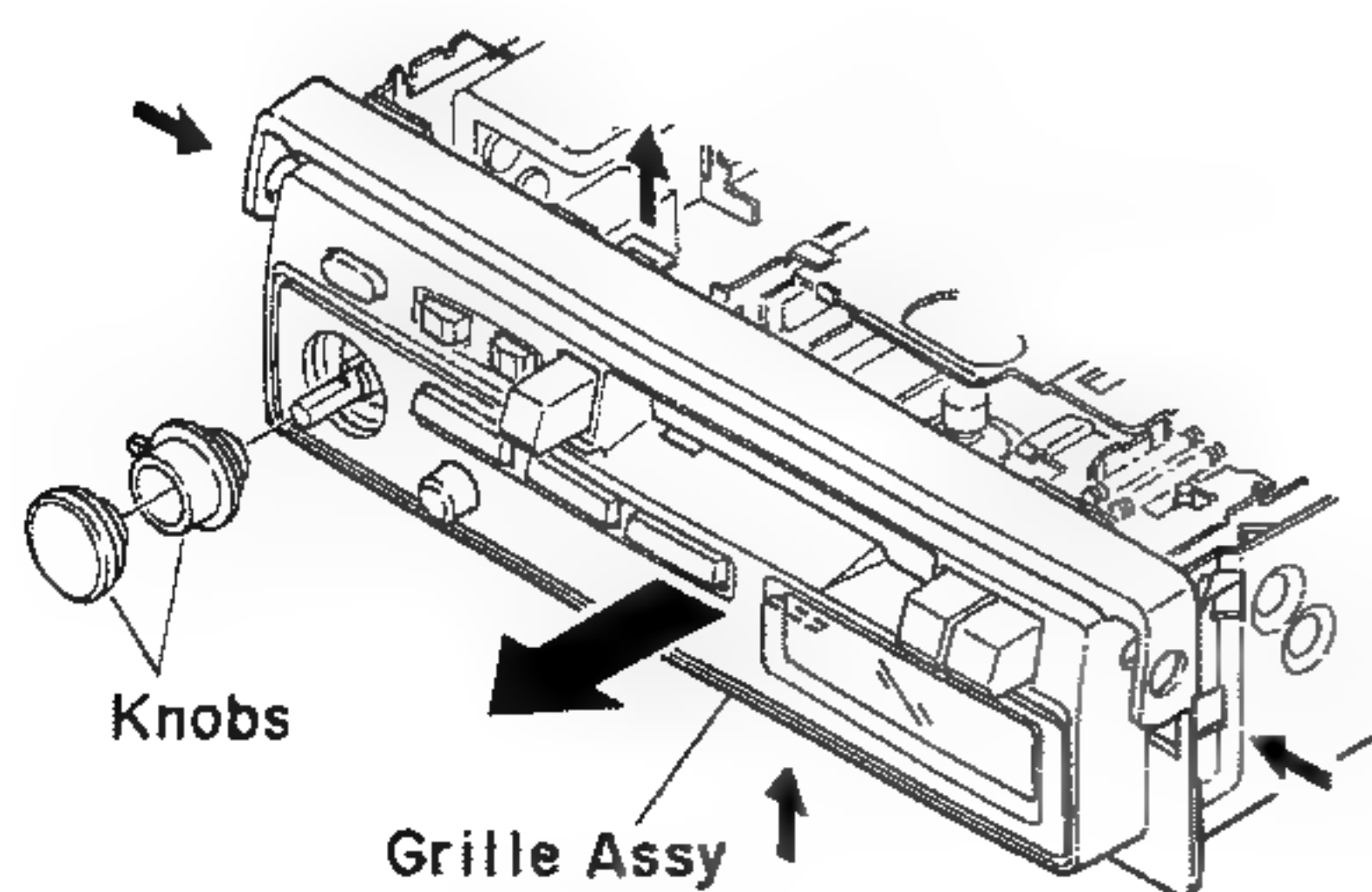


Fig.22

#### ● Removing the Cassette Mechanism Assy

1. Disconnect the connector.
2. Remove the four screws B.
3. Remove the cassette mechanism assy.

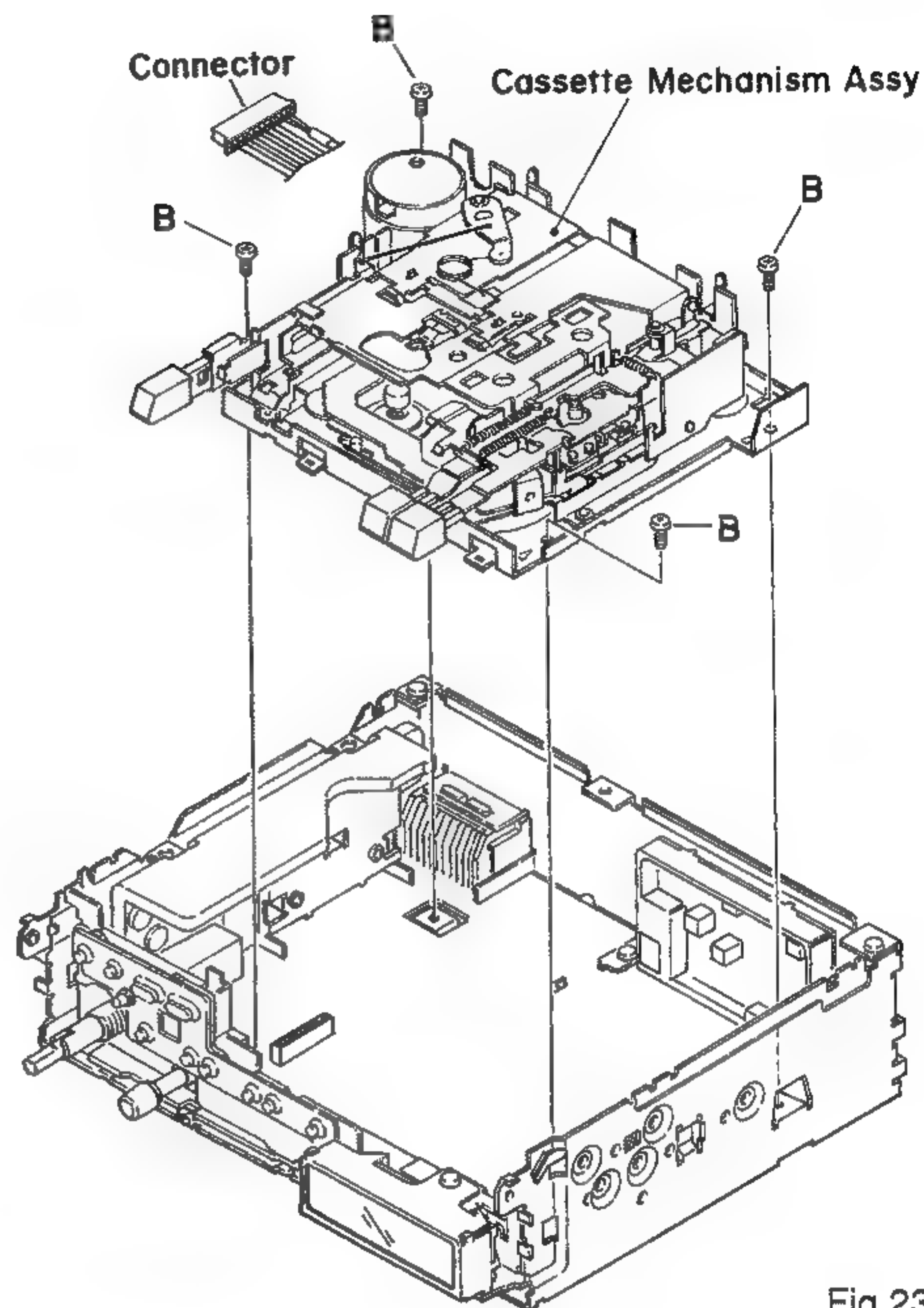


Fig.23

#### ● Removing the Tuner Amp Unit

1. Remove the five screws C.
2. Raise up tuner amp unit to remove it from the chassis Assy.

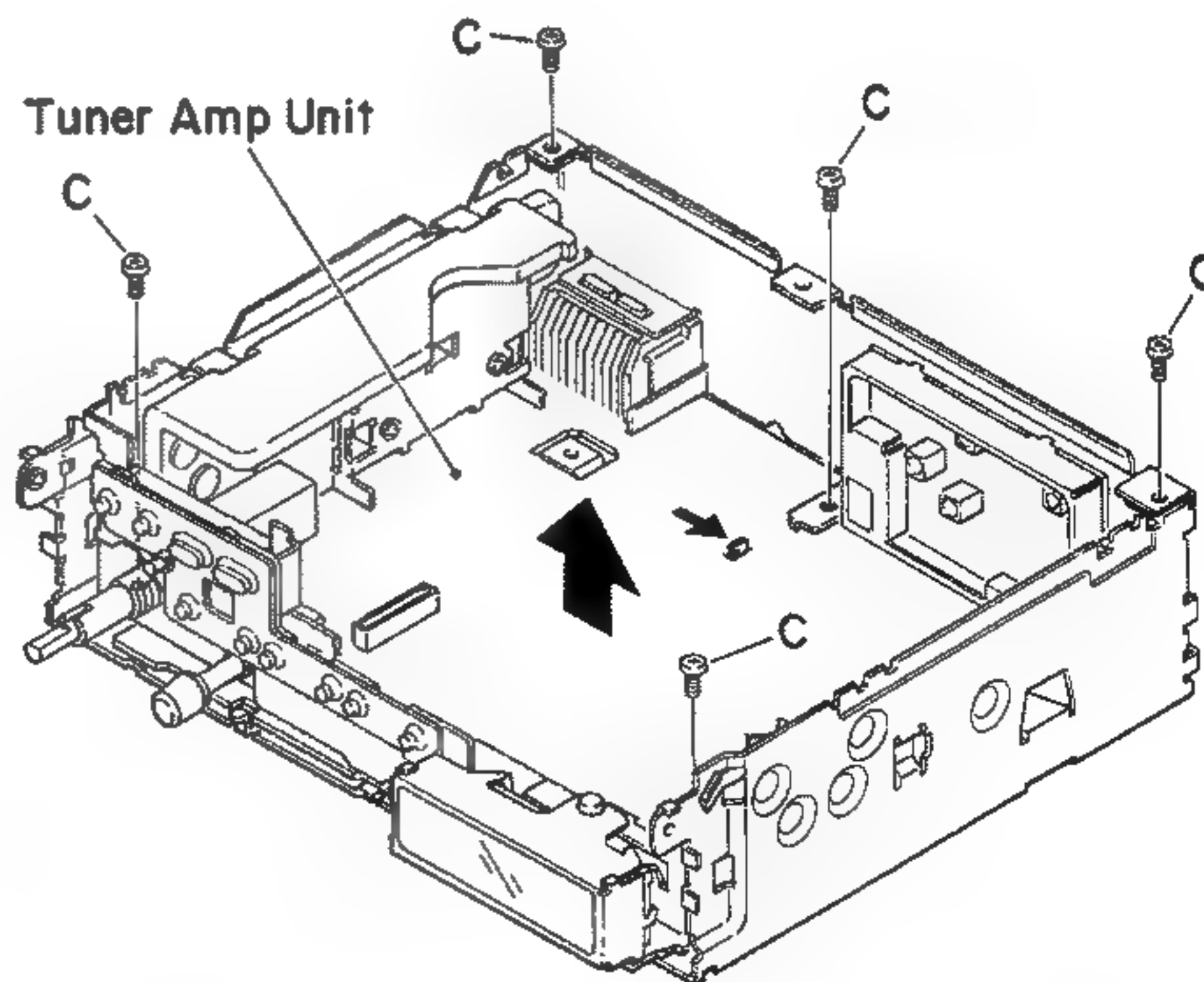


Fig.24



7.3 EXPLANATION

7.3.1 BLOCK DIAGRAM

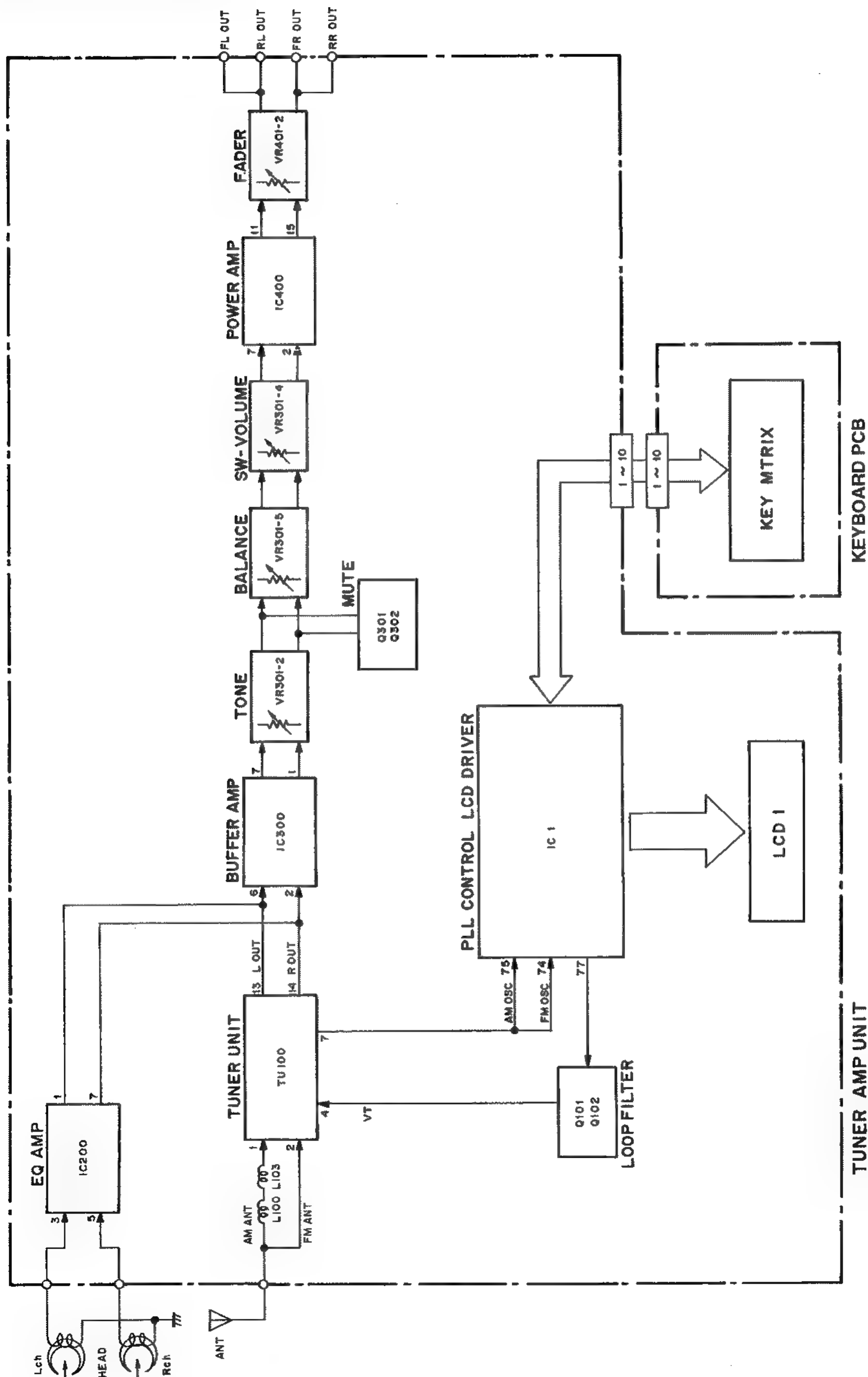


Fig.25



8. OPERATIONS AND SPECIFICATIONS

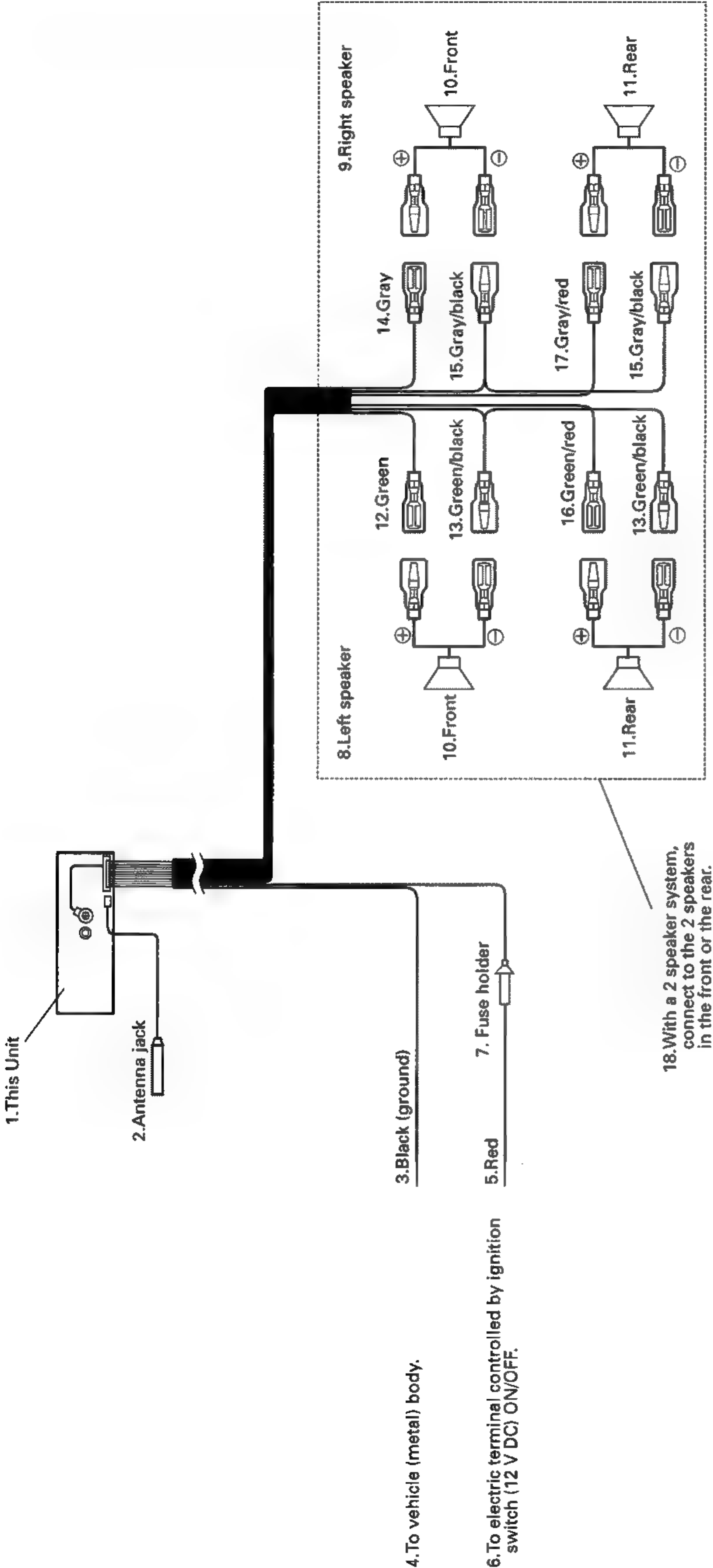


Fig.26



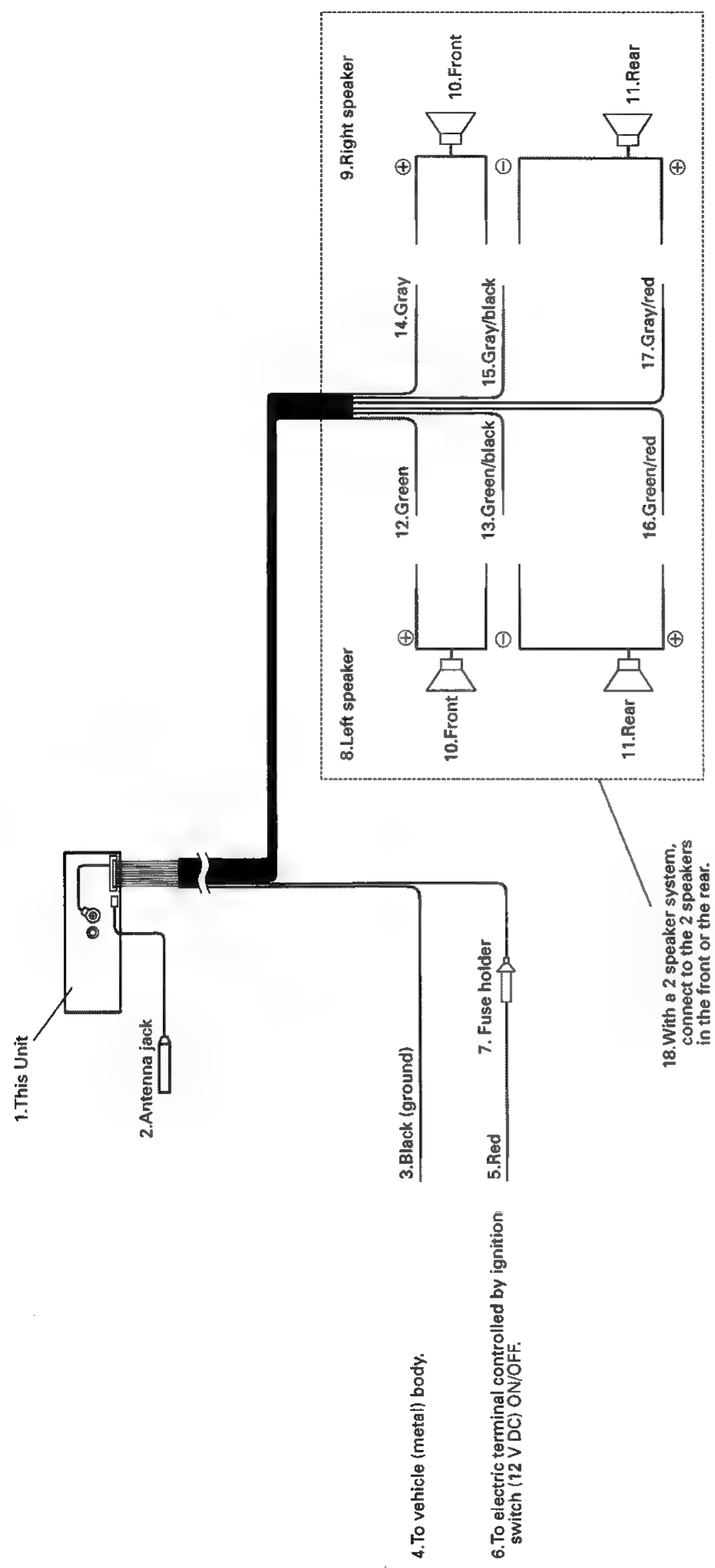


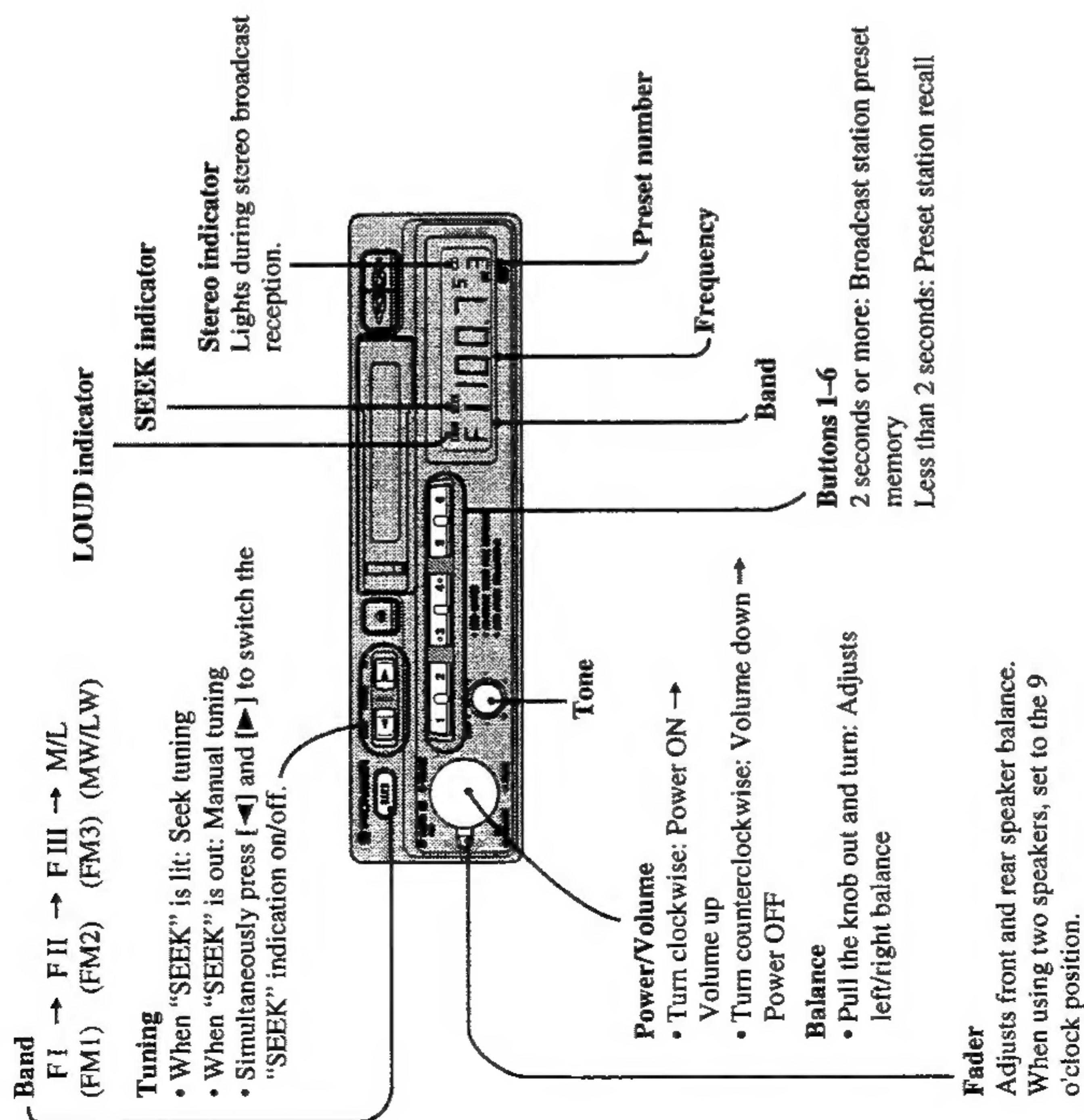
Fig.27



KEH-1010QR

**Tuner Operation**

&lt;ENGLISH&gt;

**Basic Operation of Tuner****Note:**

- If a cassette tape is loaded, eject it.
- The LOUD indicator lights when power is switched ON. (You cannot switch the Loudness function OFF.)

- The FM bands cover different frequency ranges as below;

F I (FM1): 65 - 74 MHz

F II (FM2), F III (FM3): 87.5 - 108 MHz

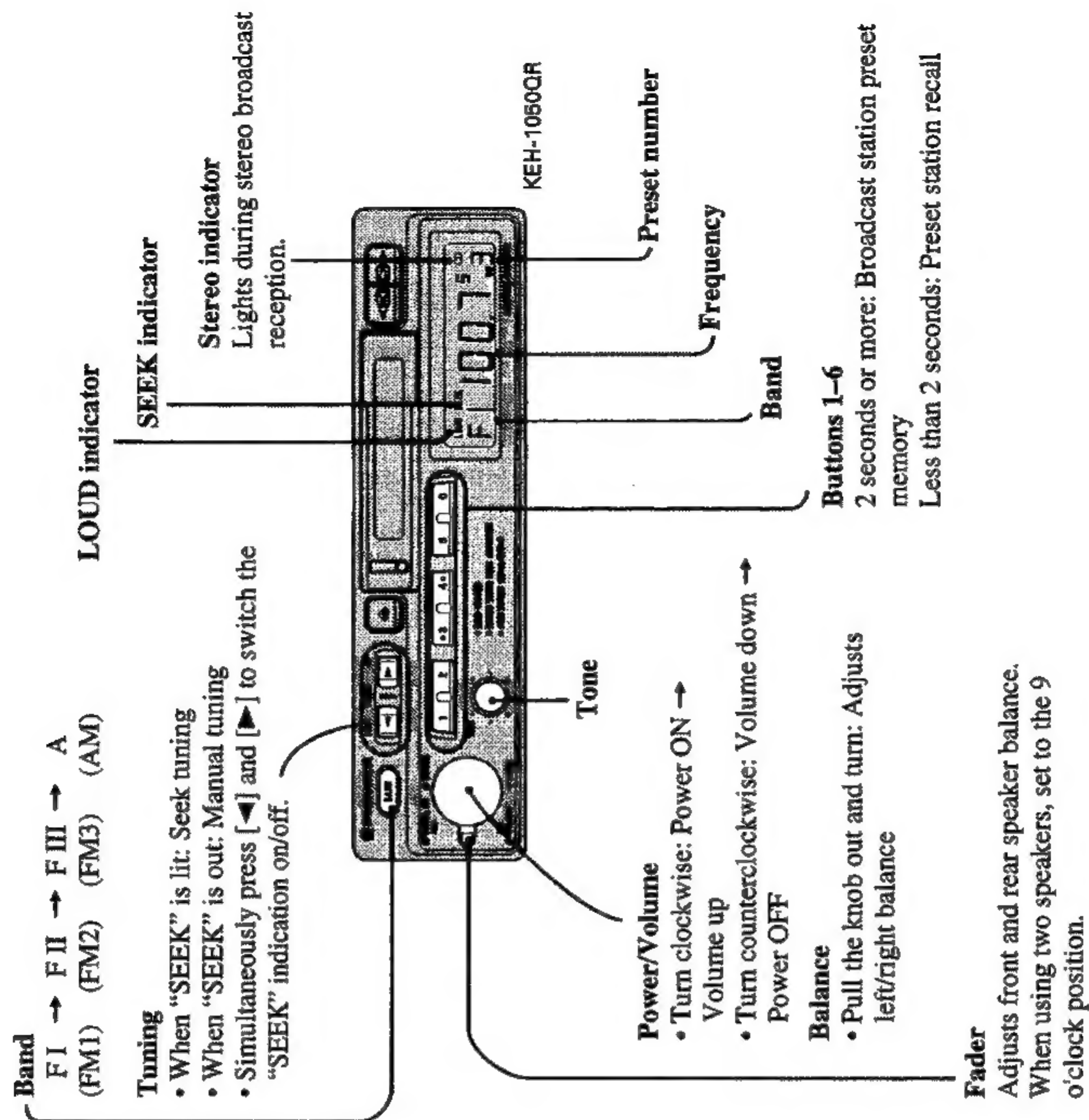
Fig.28

KEH-1010QR, 1050QR, 1050QRS

KEH-1050QR

**Tuner Operation**

&lt;ENGLISH&gt;

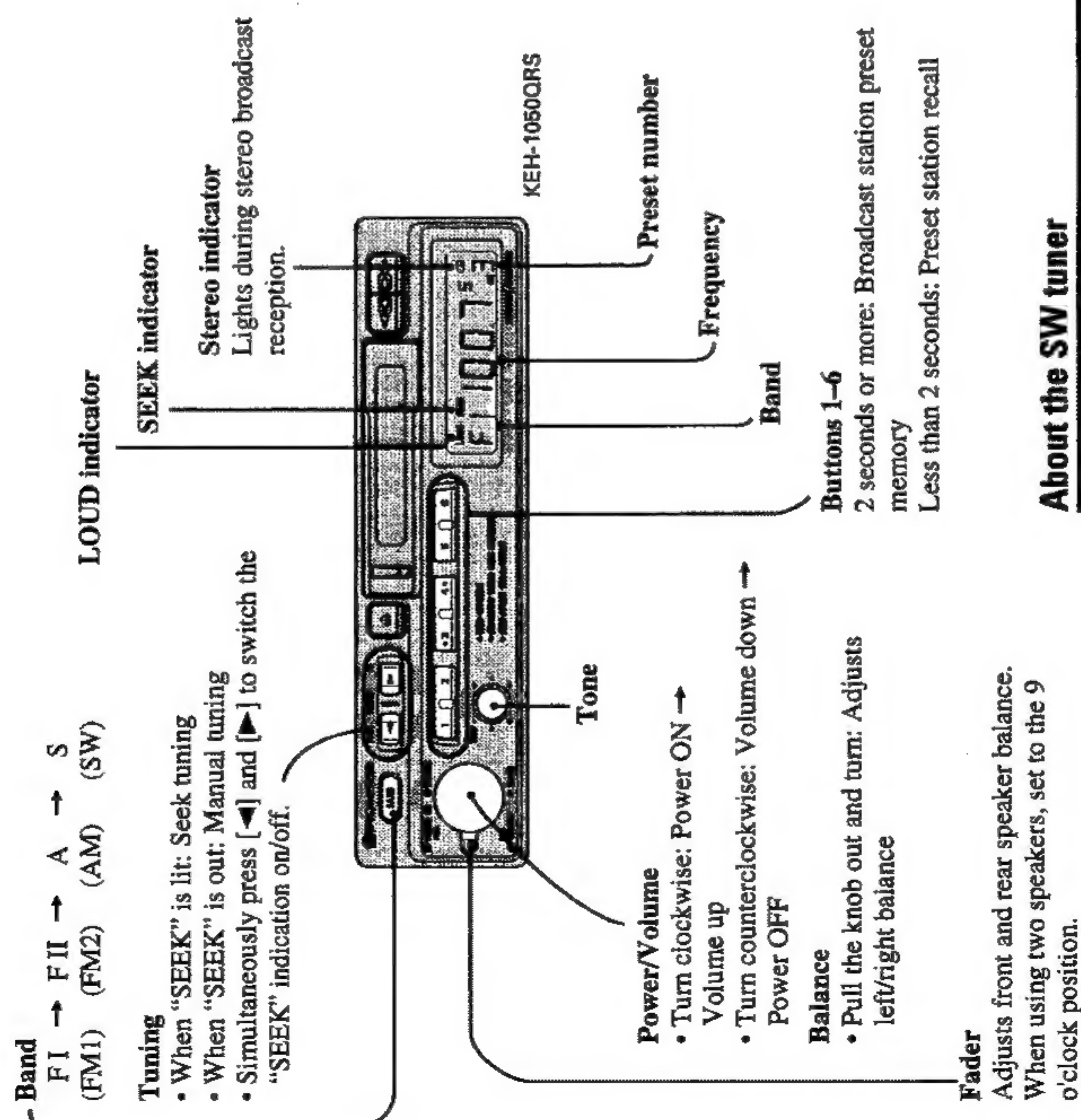
**Basic Operation of Tuner****Note:**

- If a cassette tape is loaded, eject it.
- The LOUD indicator lights when power is switched ON. (You cannot switch the Loudness function OFF.)

Fig.29



## Basic Operation of Tuner



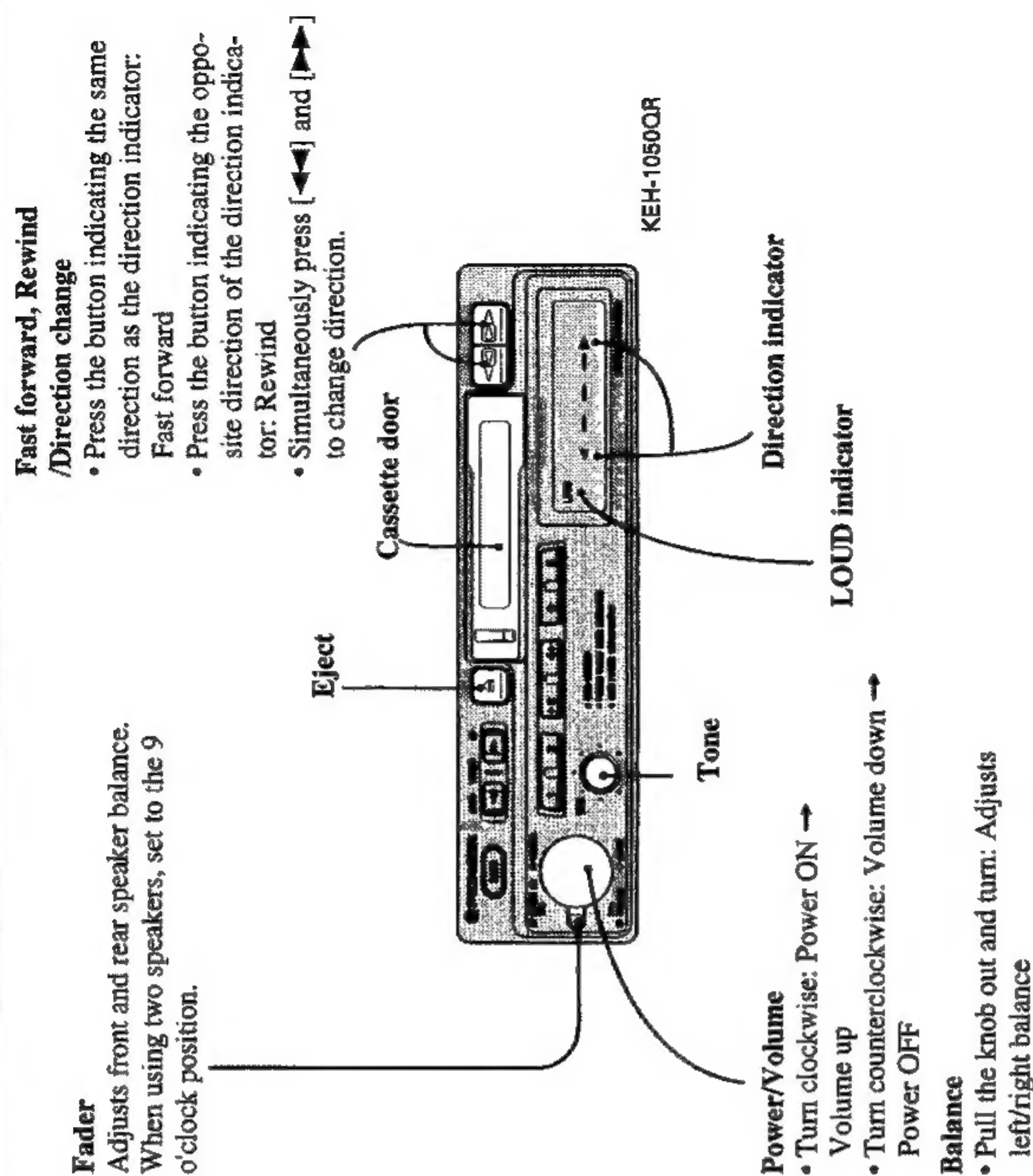
## About the SW tuner

This tuner/cassette player's tuner lets you tune to short wave (SW) stations. With short wave reception, the problem of phasing sometimes occurs. Phasing refers to periodic increases and decreases in volume level when listening to a short wave broadcast from a distant broadcast station. This phenomenon is characteristic of short wave broadcasts; it is not a malfunction of this unit.

## Note:

- If a cassette tape is loaded, eject it.
- The LOUD indicator lights when power is switched ON. (You cannot switch the Loudness function OFF.)

## Basic Operation of Cassette Player



## Note:

- The LOUD indicator lights when power is switched ON. (You cannot switch the Loudness function OFF.)



Changing the AM Tuning Step

<ENGLISH>

The tuning step employed in the tuner's AM band can be switched between 9 kHz and 10 kHz per step. Reset the tuning step from 9 kHz (the factory preset step) to 10 kHz when using the tuner in North, Central or South America.

Specifications	Initial Setting	New Setting
Tuning Steps	9 kHz	10 kHz
Frequency range	531 – 1,602 kHz	530 – 1,710 kHz

1. Set the POWER switch to the OFF position.
2. While pressing the [◀] or [▶] button, set the POWER switch to the ON position.

Cassette Player and Care

<ENGLISH>

About the Cassette Player

- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.
- Be sure to eject the tape when the vehicle's ignition is turned OFF. Leaving the tape in the unit can deform the pinch roller causing wow and flutter during tape playback.

Cleaning the Head

- If the head becomes dirty, the sound quality will deteriorate and there will be sound dropouts and other imperfections in performance. In this case, the head must be cleaned.

Precaution

- Keep this manual handy as a reference for operating procedures and precautions.
- Always keep the volume low enough for outside sounds to be audible.
- Protect the product from moisture.

- Should this product fail to operate properly, contact your dealer or nearest authorized Pioneer Service Station.

<ENGLISH>

Specifications

<ENGLISH>

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)  
Grounding system ..... Negative type  
Max. current consumption ..... 6.0 A  
Dimensions  
(mounting bracket)  
..... 182 (W) × 52 (H) × 147 (D) mm  
(front face) ..... 188 (W) × 58 (H) × 20 (D) mm  
Weight ..... 1.6 kg

Amplifier

Maximum power output ..... 25 W × 2 / 15 W × 4  
Continuous power output ..... 16 W × 2  
(DIN45324, +B = 14.4 V)  
Load impedance ..... 4 Ω (4 – 8 Ω allowable)  
Tone controls (Hi cut tone) ..... 0 – 16 dB (10 kHz)  
Loudness contour ..... +10 dB (100 Hz) (volume: –30 dB)

Cassette player

Tape ..... Compact cassette tape (C-30 – C-90)  
Tape speed ..... 4.76cm/sec.(+0.14cm/sec.,-0.05cm/sec.)  
Fast forward/rewinding time ..... Approx. 160 sec. for C-60  
Wow & flutter ..... 0.13% (WRMS)  
Frequency response ..... 40 – 14,000 Hz (±3 dB)  
Stereo separation ..... 45 dB  
Signal-to-noise ratio ..... 52 dB (IEC-A network)

FM tuner

Frequency range ..... 65 – 74 MHz  
87.5 – 108 MHz  
Usable sensitivity  
..... 11 dBf (1.0 μV/75 Ω, mono, S/N: 30 dB)  
50 dB quieting sensitivity ..... 17 dBf (1.9 μV/75 Ω, mono)  
Signal-to-noise ratio ..... 67 dB (IEC-A network)  
Distortion ..... 0.9% (at 65 dBf, 1 kHz, stereo)  
Frequency response ..... 30 – 15,000 Hz (±3 dB)  
Stereo separation ..... 34 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range ..... 531 – 1,602 kHz  
Usable sensitivity ..... 31.6 μV (S/N: 20 dB)  
Selectivity ..... 50 dB (±9 kHz)

LW tuner

Frequency range ..... 153 – 281 kHz  
Usable sensitivity ..... 63.1 μV (S/N: 20 dB)  
Selectivity ..... 50 dB (±9 kHz)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.



General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)  
Grounding system ..... Negative type  
Max. current consumption ..... 6.0 A (KEH-1050QR)  
7.5 A (KEH-1030)

Dimensions

KEH-1050QR  
(mounting bracket)  
(nose) ..... 182 (W) × 52 (H) × 147 (D) mm  
188 (W) × 58 (H) × 20 (D) mm

KEH-1030

(DIN) (chassis) ..... 178 (W) × 50 (H) × 140 (D) mm  
(nose) ..... 188 (W) × 58 (H) × 20 (D) mm  
(D) (chassis) ..... 178 (W) × 50 (H) × 145 (D) mm  
(nose) ..... 170 (W) × 46 (H) × 15 (D) mm  
Weight ..... 1.6 kg (KEH-1050QR)  
1.2 kg (KEH-1030)

Amplifier

Continuous power output is 16 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.

Maximum power output ..... 25 W × 2 / 15 W × 4  
Load impedance ..... 4 Ω (4 – 8 Ω allowable)  
Tone controls (Hi cut tone) ..... 0 – 16 dB (10 kHz)  
Loudness contour ..... +10 dB (100 Hz)(volume: –30 dB)

Cassette player

Tape ..... Compact cassette tape (C-30 – C-90)  
Tape speed ..... 4.76cm/sec.(+0.14cm/sec., -0.05cm/sec.)  
Fast forward/rewinding time ..... Approx. 160 sec. for C-60  
Wow & flutter ..... 0.13% (WRMS)  
Frequency response ..... 40 – 14,000 Hz (±3 dB)  
Stereo separation ..... 45 dB  
Signal-to-noise ratio ..... 52 dB (IEC-A network)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)  
Grounding system ..... Negative type  
Max. current consumption ..... 6.0 A (KEH-1050QRS)  
7.5 A (KEH-1030SW)

Dimensions

KEH-1050QRS  
(mounting bracket)  
(nose) ..... 182 (W) × 52 (H) × 147 (D) mm  
188 (W) × 58 (H) × 20 (D) mm

KEH-1030SW

(DIN) (chassis) ..... 178 (W) × 50 (H) × 140 (D) mm  
(nose) ..... 188 (W) × 58 (H) × 20 (D) mm  
(D) (chassis) ..... 178 (W) × 50 (H) × 145 (D) mm  
(nose) ..... 170 (W) × 46 (H) × 15 (D) mm  
Weight ..... 1.6 kg (KEH-1050QRS)  
1.2 kg (KEH-1030SW)

Amplifier

Continuous power output is 16 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.

Maximum power output ..... 25 W × 2 / 15 W × 4  
Load impedance ..... 4 Ω (4 – 8 Ω allowable)  
Tone controls (Hi cut tone) ..... 0 – 16 dB (10 kHz)  
Loudness contour ..... +10 dB (100 Hz)(volume: –30 dB)

Cassette player

Tape ..... Compact cassette tape (C-30 – C-90)  
Tape speed ..... 4.76cm/sec.(+0.14cm/sec., -0.05cm/sec.)  
Fast forward/rewinding time ..... Approx. 160 sec. for C-60  
Wow & flutter ..... 0.13% (WRMS)  
Frequency response ..... 40 – 14,000 Hz (±3 dB)  
Stereo separation ..... 45 dB  
Signal-to-noise ratio ..... 52 dB (IEC-A network)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.